

Recover Protected Species Program

FY 2003-2007 Budget Initiative

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**National Oceanic and Atmospheric Administration
DEPARTMENT OF COMMERCE**

Recover Protected Species Initiatives

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Recover Protected Species Program

FY 2003 Increase - \$10.85M

Vision. NOAA's vision is to conserve marine species and to recover those in danger of extinction. By 2005, NOAA will be on the road to recovering every marine species at risk and maintaining healthy marine ecosystems upon which they depend.

Challenge. Marine resources generate billions of dollars for the Nation's economy. However, many commercial and recreational activities contribute to stress on marine species. Many populations of marine organisms are depleted or declining due to human activity on land and in the marine environment or to unknown causes. For example, west coast salmon populations are at risk due to a combination of factors including habitat loss and commercial overexploitation. Despite protective measures, fishing related mortality continues to threaten marine turtles in U.S. waters. Several sea lion and seal populations in Alaska are declining rapidly, and the causes are uncertain. Recovery plans have been developed, for the most endangered species, but implementation plans for others, especially for stocks of marine mammals and sea turtles is needed. The continuing challenge is to reduce conflicts between protected species management and users of other marine resources, such as commercial fisheries, in order to recover protected species in danger of extinction in a manner compatible with the sustainable use of marine resources.

Implementation Strategy. The objectives of this goal are to:

- Prevent extinction of protected species. Implementation of recovery plans will reduce the probability of extinction and ensure that protected resources remain for future generations. Plans will emphasize research and management actions to mitigate or avoid detrimental interactions between marine species and human activities.
- Maintain healthy species and ecosystems. By applying an ecosystem approach to marine biodiversity conservation and species recovery, actions taken to conserve healthy or at risk resources will serve to avoid the need for overly restrictive protection measures.

FY 2003 Proposed RPS Initiative Themes.

Modernization - The RPS program proposes to support the modernization of science and conservation of protected resources through the improvement of stock assessment for marine mammals and the collection, analysis and interpretation of economic and environmental data as required by program legislative mandates.

Crisis Intervention and Prevention - The program proposes to devote additional resources to preventing the extinction of highly endangered marine turtles and white abalone and assessment and conservation of species at risk of endangerment.

Cooperation within NOAA - The program will increase cooperation with other parts of NOAA; the National Ocean Service and the National Environmental Satellite, Data and Information Service. The RPS program and NESDIS propose to improve NOAA's abilities to collect and interpret satellite data to better understand and predict the complex interactions of the biological and physical marine environment for sea turtles and large whales. The RPS program and NOS propose to apply NOAA's full authorities to restore and conserve endangered salmon habitat and to establish a self-supporting habitat restoration program for protected species.

Cooperation with Governments and the Public - The use of partnerships with states, foreign governments and the public is integral to the success of these initiatives. This includes cooperative research and conservation and it includes a strong commitment to outreach and education. These initiatives are summarized below and described in detail within this document.

1. Recover Endangered Large Whales through Modernized Stock Assessments + \$2.10M

During the past 30 years, only one stock, the Eastern North Pacific Gray Whale population, has been removed (i.e., delisted) from the List of Endangered and Threatened Wildlife because it has recovered. A number of additional whale stocks may have also recovered, but stock assessment information to confirm this is lacking. The Recover Protected Species Program will gather the information to scientifically determine whether other populations have recovered and are candidates for delisting.

2. Apply CERCLA Authorities to Improve Habitat for Protected Species + \$1.5M

This partnership of NOAA's authorities under the Endangered Species Act (ESA) and Superfund (CERCLA) will further the recovery of threatened and endangered species. Efforts will focus on West Coast salmon, significantly bolstering our ability to restore habitat that is currently polluted and threatening salmon to an environment that enhances their survival.

3. Candidate Conservation and Species Recovery +2.15M

NOAA will work proactively, to respond to species listing petitions, and promote conservation and recovery before species need to be listed under the Endangered Species Act. NOAA will save white abalone off Southern California and Mexico from extinction.

3. Recovery of Highly Endangered Marine Turtles +\$2.10M

The Recover Protected Species program will protect globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles from extinction. It will do this by implementing a comprehensive domestic program to reduce interactions with fishing gear with the goal of exporting gear modifications for reducing fishery interactions globally.

4. Meeting RPS Statutory and Regulatory Requirements

+2.0M

The Recover Protected Species Program will provide thorough, complete and timely environmental and economic analyses to its customers and for its recovery programs. The RPS program will reduce backlogs in protected species conservation consultations and assessments and develop comprehensive recovery programs as required by law.

NMFS Galveston Laboratory Renovation - Phase III

+ \$1.0M

This initiative will be the first step in addressing an inability to properly use existing laboratory and office space to accomplish required research and administrative functions. This final Phase III will complete the renovation and allow the Laboratory to meet its mission. Funding will provide the electrical and mechanical infrastructure. The electrical distribution, potable water distribution, natural gas distribution, and communications distribution are inadequate to provide proper service to the laboratory.

Benefits. Through conservation of the Nation's living marine resources in cooperation with Federal, tribal, state and local partners, NOAA will enhance economic and cultural opportunities for future generations. The existence of the Marine Mammal Protection Act, the Endangered Species Act and other legislation provides a clear indication of public support for strong efforts to conserve living marine resources and protect marine resources facing declines and extinction. NOAA will develop conservation and recovery programs that consider the resource and habitat needs of marine species in conjunction with sustainable economic opportunities in the marine environment. This will enable the preservation of marine biodiversity by balancing the utilization of natural resources with the management of protected species. Recovering listed species, and avoiding the further decline of others, will contribute to the overall health and understanding of marine ecosystems. Improved science will lead to better long-term conservation and management strategies.

FY 2003 Recover Protected Species Initiative Summary					
RPS Initiative/Line Organization		Current and Proposed Funding (\$ x million)			
Operations, Research and Facilities	FTEs	Pos-03	FY03 Proposed	FY02 Proposed	Base Program
Recovery of Endangered Large Whales	1	1	2.10	0	.87
NMFS - Contracts, Ship Charters, Personnel		[1]	[1.95]	0	[.87]
NESDIS - Data gathering, monitoring		0	[.15]	0	0
Pacific Salmon Habitat Restoration	4	6	1.50	0	0
NOS		[4]	[.40]	0	0
NMFS		[2]	[.20]	0	0
NOS - Contracts		0	[.90]	0	0
Candidate Conservation and Species Recovery	6	8	2.15	1.50 ¹	5.90 ²
White abalone recovery - NMFS		[3]	[1.15]		[0]
Candidate species conservation		[5]	[1.00]		[1.10]
Recovery of Highly Endangered Sea Turtles	3	4	2..10	3.00	6.34
NMFS		[4]	[2.05]		[6.40]
NESDIS		0	[.05]		
Meeting Statutory and Regulatory Requirements	15	20	2.00	0	1.10
Procurements, Acquisitions and Contracts					
Phase III - Galveston Laboratory Renovation		0	1.00	0	8.00
Total		39	10.85		

¹\$1.5M proposed for Atlantic salmon recovery

²\$4.8M dedicated to Atlantic salmon recovery

FY 2003 Recover Protected Species Proposed Funding/FTE Distribution			
Initiative	Source - Amount	Recipient	FTEs
Large Whales	NMFS - 2.05M	NMFS	1 ³
Large Whales	NESDIS - .05M	NESDIS	-
Habitat Restoration	NOS - .75M	NOS	4
Habitat Restoration	NMFS - .75M	NOS	2
Candidate Plus	NMFS - 2.15M	NMFS	8
Marine Turtles	NMFS - 2.05M	NMFS	4
Marine Turtles	NESDIS - .05M	NESDIS	-
Statutory Responsibilities	NMFS - 2.0M	NMFS	20
Galveston Phase III	NMFS - 1.0M	NMFS	0-
Totals	10.85M		39

³ NMFS FTE to monitor and interpret NMFS environmental data related to habitat use for whales and sea turtles from Ocean Watch Node

1. Brief Description of Initiative: Recover Endangered Large Whales through Modernized Stock Assessments

There are currently 23 stocks of 8 species of large whales listed as Endangered or Threatened under the Endangered Species Act (ESA) or depleted under the Marine Mammal Protection Act (MMPA). During the past 30 years, only one stock, the Eastern North Pacific Gray Whale population, has been removed (i.e., delisted) from the ESA's List of Endangered and Threatened Wildlife (List) because it was deemed recovered. A number of additional whale stocks may have also recovered, but stock assessment information to confirm this is lacking. This initiative will provide the information to scientifically determine whether other populations have recovered and are candidates for delisting. If this determination is true, it has significant ramifications (see accomplishments in 2). If these stocks have not yet recovered, the information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs. This information will enable NMFS to detect changes in the status of large whales in order to prevent long-term irreversible damage to these populations. In either case we would continue to monitor and protect these stocks as required under the MMPA.

With the exception of North Atlantic Right Whales (\$2.1M), North Pacific Right Whales (\$200K), North Atlantic humpbacks (\$42K) and North Pacific humpbacks (\$45K), there are no NOAA base funds to assess the status of large whales relative to their recovery under the MMPA and ESA. Basic information necessary to make a prognosis of a population's recovery, such as abundance estimates and trends (how many whales are there today and are their populations increasing or decreasing?), population structure (how many discrete stocks are there and how many males, females and juveniles in each stock?), and knowledge of their habitat (what are the environmental conditions essential for the population) is lacking. This information can be acquired with relatively small, focused, investments.

This initiative will benefit RPS resources because it will establish a funding base to determine the stage of recovery of numerous populations of large whales and initiate innovative sampling and analytical methods that will provide information on the status and trends of whale populations and their habitat requirements. This initiative will include assessment of stocks in domestic and international waters because large whales do not recognize political boundaries, . We will begin in FY03 with a modest program that focuses on populations for which we have some promising information such as stocks of humpbacks, fin, bowheads, sperm, and blue whales. In the outyears the number of stocks would be increased.

2. Desired Outcome: What will funding of this initiative accomplish? What problem are we solving?

The accomplishments of this initiative will be five-fold: a) determine whether we have successfully recovered large whale populations, in addition to Eastern North Pacific gray whales, to comply with our mandates under the Endangered Species Act and the Marine Mammal Protection Act and to meet our

RPS performance measures; b) address the overwhelming calls by the public for environmental conservation of marine species; c) remove unnecessary regulatory burdens on industry, researchers, and the public and more effectively focus recovery actions and funds; d) improve stock assessments for large whales; and e) implement modernized data collection and analytical techniques. The problems or information gaps we will address include: population structure, abundance, migratory patterns, and habitat needs. This will be accomplished through biochemical techniques, such as DNA analysis, and modern data collection and analytical methods such as acoustic assessments and satellite imagery.

Why is this important? One of the major marine conservation success stories over the last 30 years has been the recovery of the Eastern North Pacific gray whale - it was taken off the ESA's List of Endangered and Threatened Wildlife in 1994, largely due to the quality of the stock assessments. This 2003 initiative has the potential to create new conservation success stories in the next few years by scientifically confirming whether populations of large whales currently listed as Endangered, such as humpbacks, sperm, fin, bowhead, and blue whales, have recovered sufficiently to be downlisted or delisted (i.e., removed) from the Endangered Species List.

The Kammer Report stated that the agency has never received adequate funding to collect the stock assessment information needed to accurately estimate abundance of the large whales for which NMFS is responsible. This initiative will provide minimum start-up funding to gather this information for an important subset of large whales.

3. What needs to be done by NOAA? What activities should NOAA do to implement this initiative? What is NOAA doing now? What are the near and long-term priorities for NOAA's planned actions?

What we do now? - NOAA Fisheries' regional Science Centers are responsible for conducting assessment surveys for the approximately 150 marine mammal stocks under NMFS jurisdiction. The marine mammal program has had to focus its effort on a handful of the most controversial stocks because the agency has received only a fraction of the funds necessary to pay for this responsibility. This situation is aggravated because large whales are extremely difficult to accurately assess due to their rarity, long dive times, enormous ranges, and gender specific migratory behavior. As a result, status and trend information for most large whale stocks is extremely out of date, and in many cases is highly inaccurate because of the limitations of existing assessment techniques.

What activities should we do? - We will focus our efforts on Improving and Modernizing Stock Assessment techniques for stocks of 5 large whale species in the following ways.

For coastally distributed stocks (e.g., humpback and right whales) we will focus on increased use of and improvement in **Photographic Identification** and **Aerial Photogrammetry**. These are widely used and successful methods to document the presence of individual whales and groups of whales. Low altitude high-resolution photographic techniques allow individual and groups of whales to be photographed and measured with great precision, and provide unique data sets that are not obtainable

with traditional survey techniques. Such data serve as the basis for abundance estimates through relative rates of resightings of individuals. The data may provide much-needed information on population structure and individual animal health.

For more remote populations, such as fin and sperm whales, we will focus on **Ship Based Surveys**. Vessel surveys are the traditional means to survey marine mammal populations and will continue to be essential in estimating population abundance of pelagic marine mammal stocks. Unfortunately the cost of ship time has become increasingly expensive, making it extremely difficult to fund enough time on the water to obtain precise population estimates. Vessel time, not including personnel, costs a minimum of \$5,000 per day. To make matters worse, the migratory behavior and range of large whales are frequently different from the small cetacean species that NMFS must also assess, making it difficult to thoroughly survey both groups of animals in one cruise. Furthermore, ship-based surveys are only effective during optimal weather conditions and during periods when the whales are most accessible for assessment (e.g., summer feeding and/or winter breeding areas of congregation). During the outyears, we will use a combination of assessment methods to better define the seasonal and spatial distribution of large whales, and therefore optimize survey efforts.

For the rarest species and most remote locations we will focus on the use of **Passive Acoustic Methods**. In partnership with the Navy, OAR, IFAW, and academia, NOAA Fisheries is developing programs to integrate passive acoustic methods into its marine mammal assessment programs. These methods provide biological information on unprecedented spatial and temporal scales (e.g., over large ocean basins). Pilot studies at four of the NOAA Fisheries Regional Science Centers are providing information on the seasonal occurrence, spatial distribution and movement of whale species as they migrate through specific regions and habitats, along with information on the prevailing levels of natural and anthropogenic noise found in habitats utilized by whales. This acoustic technique has expanded our detection range beyond the limits of visual observers, and allows data to be gathered during periods of poor or limited visibility (e.g., nighttime). This initiative would augment existing acoustic surveys and add new ones as well as develop improved sampling and analytical methods.

For all species we must expand studies of stock structure. **Genetic profiling** is essential for evaluating whale population status and estimating risk from incidental mortality and other anthropogenic threats. Genetic profiling of whale populations and other histo-chemical analyses are fundamental components of long term stock structure and contaminant evaluations. Genetic techniques also provide an alternative method for estimation of population abundance. This initiative would include expand tissue analysis to understand stock structure, potential genetic risks to large whale populations due to their small populations, health, and differential habitat utilization.

We must continue to improve **Telemetry techniques** (e.g., satellite tagging) for all species. State-of-the-art tags provide sophisticated ecological data that will expand our capabilities to predict where large whales will occur. Time-depth recorders, acoustic recorders, VHF and satellite radio tags are all relatively small, electronically efficient, and proven techniques which can remain attached to whales for

up to a year. They provide information necessary to account for the proportion of animals underwater (and consequently out of sight of visual observation) and improve our population abundance estimates. Funds will be used to modernize NOAA Fisheries telemetry technology and increase the number of tagged animals. In the near term, this initiative will allow us to expand the use of telemetry tags and to continue monitoring the health of previously tagged animals. In the outyears, our focus will be on improving tag effectiveness, such as increasing their transmission life, prolonging their attachment, and enhancing their data acquisition capabilities.

We also propose the use of **Satellite Imagery** in defining and monitoring the habitat of large whales. Satellite imagery provides synoptic information on several environmental conditions important to large whales and is appropriate to address large-scale habitat issues. Knowing and monitoring the critical habitat of these species is useful in inferring their distribution pattern and abundance, in predicting the risk of extinction if and when environmental conditions change, and in establishing policies designed to minimize conflicts between fishing operations and these marine mammals. In addition, satellite data can be used to assess the availability and variability of a specific set of environmental conditions (= habitat) over time. The oceanographic data derived from satellites, in conjunction with sighting information and in-situ measured obtained by stock assessments (listed above), will be compiled and used to define the habitat of each species. Once the habitat of a species is established, a habitat model can be developed and applied to satellite data in order to map their probable location and abundance. Near-real time satellite-derived oceanographic imagery of sea-surface temperature (SST), chlorophyll concentration, surface winds and height, will be acquired, processed and distributed by the NESDIS to CoastWatch Nodes located at two NMFS Laboratories for utilization. First year funding is requested to support 1) the operations and upgrade of these CoastWatch Nodes, and 2) a FTE or equivalent to utilize satellite imagery in defining large whale habitat at two centers.

Finally, we should **Conduct status reviews and evaluate the risk of extinction** for each stock based on the improved assessment information. Projects proposed under the Large Whale Initiative are expected to greatly enhance our knowledge of the abundance, distribution, and stock structure of the 5 large whale populations of interest. NMFS expects that, after 5 years of successful research, new status reviews would be prepared for each stock. These reviews would be used by NMFS management to determine whether it would be appropriate to consider changing each stock's status under the ESA.

What are the near and long-term priorities for NOAA's planned actions? Our near term priority is to significantly improve the quality of stock assessments for stocks of five key species - humpbacks, fin, bowheads, sperm, and blue whales. In the long term, we will apply the techniques developed here to improve the assessments of all other endangered large whale stocks, and use these advanced technologies to provide more effective assessments for other marine mammal and turtle species managed by NOAA.

4. Who are NOAA's partners in this effort and what are we and they currently doing, and will they do? Identify current and planned Federal, state and private partners and the results they've achieved or plan to achieve.

Current partnerships include: NOAA National Environmental Satellite, Data, and Information Service (NESDIS), the NOAA Sanctuary Program, the NOAA Pacific Marine Environmental Laboratory and Atlantic Meteorological and Oceanographic Laboratory, the Department of the Interior's Minerals Management Service Environmental Studies Program, the U.S. Fish and Wildlife Service, the National Park Service, and U.S. Geological Service (Biological Resources Division); the Department of the Navy's Office of the Chief of Naval Operations and Office of Naval Research; Fisheries Management Councils, State agencies, Colleges and Universities, and local environmental and conservation organizations. This initiative would strengthen and expand these partnerships. In addition, many whale populations range widely over the territorial seas of neighboring nations to the U.S. and its territories. Research and conservation for these highly migratory populations require collaboration and cooperation with foreign governments and recognized international conservation authorities (i.e, Canada, Mexico, Russia, various Caribbean nations, IUCN, IWC, CITES).

Our NESDIS partners will provide satellite-derived oceanographic products in near-real time to NMFS centers to support these activities. This task will in part be funded by the \$50K allocated to this RPS initiative by NESDIS. This NESDIS funding is part of a larger OceanWatch Program, a FY03 initiative to deliver satellite-derived oceanographic data to NOAA Line Offices, and federal and state agencies in near-real time. NESDIS has devoted considerable funding to develop the infrastructure for this activity in past years.

5. What will it cost? What are we currently spending? What is current base funding for this initiative? Where is it? What is requested in the FY02 budget proposal (also considered base)? What is the year one ('03) cost (increase over current base funding. What are outyear cost increases – from FY04-07. Specify any personnel and other supporting cost needs. In addition, dedicate appropriate costs to international aspects of conservation, outreach and education, and data management. Build the initiative in incremental blocks for year 1 and for out years. What are the "must have" components of the proposal, e.g., personnel, equipment, etc, and what might be contained in successive pieces

What is current NMFS base funding for this initiative? \$87K

Humpbacks = North Pacific \$45K for photo id (NMML); 42K North Atlantic humpbacks

Sperm = \$0

Fin = \$0

Bowhead = \$0 (\$400K passthrough to Alaska Eskimo Whaling Commission)

Blue whales = \$0

02 President's Budget - There is \$1million in the President's budget for stock assessment for marine mammals. This will be targeted to NMFS science centers (NE, SW, AK) to support stock assessment

capabilities for under-assessed stocks, which include: Alaska beluga whales, Hawaiian cetaceans - these include spinner, spotted and striped dolphins, and Gray whales on the west coast.

03 Budget Proposal - \$2.10 million specifically for stock assessments for these species - 2.05M from NMFS and 50K from NESDIS. This includes costs for vessel contracts @ \$5 - \$12K per day; aircraft costs @2K per day; telemetry; genetic profiling; outreach and education; international activities; and data management. 5% of this project will be dedicated to international activities; 5% to outreach and education. Data management is incorporated into the overall request.

04 - 07 Budget Proposal - \$2 million per year additional

Must haves in year one:

NMML \$500K:

- bowhead whale aerial photo-identification and analyses of existing data: \$260K
- directed vessel surveys for large whales (fin/humpback) and acoustics (survey the Bering Sea and Gulf of Alaska in alternate years): \$240K

SWFSC \$475K

- photo-id mark recapture studies of humpback and blue whales along CA/OR/WA: \$75K
- genetic stock id work on blue and fin whales in the No. Pacific basin:\$50K
- ship surveys of large whales in the eastern north pacific using visual and acoustic methods:\$300K
- acoustic surveys of remote blue whale stocks: \$50K

SEFSC \$475K

- directed acoustic/visual assessment surveys for winter migratory whales (humpbacks) in the Atlantic and Caribbean - \$200K
- directed acoustic/visual assessment surveys for summer whales (sperm, blue, fin) in the Gulf of Mexico, Atlantic - \$200K
- support for NRC post-doc to do passive acoustic detection and assessment of large whales in Caribbean, Atlantic, and Gulf of Mexico - \$75K

NEFSC \$600K

- directed vessel surveys for fin/sperm whales in summer: \$200K
- telemetry studies on sperm and fin for dive time: \$175K
- pilot study for remote telemetry of passive acoustics data from remote sites: \$100K
- support of NESDIS CoastWatch Node to characterize large whale habitat - \$75K
- NESDIS to provide near-real time satellite imagery and environmental data to NMFS - \$50K

F/PR - \$50K

- tissue and other histo-chemical analyses to determine animal health

Added activities in years two through four:

NMML -- NRC post-doc for passive acoustic detection of whales in the North Pacific using PMEL's instruments; post-doc to estimate risk of extinction given year one data;

SWFSC – Definition of critical habitat for blue, humpback and fin whales in the eastern North Pacific;

SEFSC – expanded surveys of winter and summer migratory whales;

NEFSC – continued surveys and telemetry studies; operational deployment of passive acoustic devices on remote tethered buoys in the Gulf of Maine. Additional post-docs to work on telemetry studies and passive acoustic studies;

F/PR – expanded tissue and histo-chemical analyses

FTE Cost - ZP-3 (GS-11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor
Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

6. How will we know if we succeed? What results will we see after one year of the proposed funding increase? How will this be different from results of current program funding? How will we measure our success or failure? Use attached framework to identify measurable performance metrics to be accomplished with proposed funding.

We will measure our success in year one by the number of assessments completed (between 1 and 5) and the improvement in precision of the assessments. Additional funding in the outyears would lead to determining whether stocks of 1- 5 species of large whales have successfully recovered. Full funding through the outyears would help us meet the RPS performance goal of reducing the probability of extinction of endangered, threatened and candidate species ESUs and increasing the probability that depleted marine mammal stocks will exceed the lower level of optimal sustainable populations. Under the current program we do not have an adequate scientific basis to determine whether certain large whale stocks have recovered.

Criteria for the FY 03 Joint Budget Review

Recover Endangered Large Whales through Modernized Stock Assessments

1. Description of Initiative:

There are currently 23 stocks of 8 species of large whales listed as Endangered or Threatened under the Endangered Species Act (ESA), or depleted under the Marine Mammal Protection Act (MMPA). During the past 30 years, only one stock, the Eastern North Pacific Gray Whale population, has been removed (i.e., delisted) from the ESA's List of Endangered and Threatened Wildlife because it was deemed recovered. A number of additional whale stocks may have also recovered, but stock assessment information to confirm this is lacking. This initiative will provide the information to scientifically determine whether other populations have recovered and are candidates for delisting. If this determination is true, it has significant ramifications (see accomplishments in 2). If these stocks have not yet recovered, the information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs. In either case we would continue to monitor and protect these stocks as required under the MMPA.

With the exception of North Atlantic Right Whales (\$2.1M), North Pacific Right Whales (\$200K), North Atlantic humpbacks (\$42K), and North Pacific humpbacks (\$45K) there are no NOAA base funds to assess the status of large whales relative to their recovery under the MMPA and ESA. Basic information necessary to make a prognosis of a population's recovery, such as abundance estimates and trends (how many whales are there today and are their populations increasing or decreasing?), population structure (how many discrete stocks are there and how many males, females and juveniles in each stock?), and knowledge of their habitat (what are the environmental conditions essential for the population) is lacking. This information can be acquired with relatively small, focused, investments in stock assessment. Specifically, we will improve stock assessment techniques through traditional survey methods (photo-identification, aerial photogrammetry, ship-based surveys) and innovative technologies such as acoustics, genetics, and satellite telemetry for stocks of 5 large whale species.

2. Expected Outcome:

The accomplishments of this initiative will be five-fold: a) determine whether we have successfully recovered more large whale populations, in addition to gray whales, to comply with our mandates under the Endangered Species Act and the Marine Mammal Protection Act and to meet our RPS performance measures; b) address the overwhelming calls by the public for environmental conservation of marine species; c) remove unnecessary regulatory burdens on industry, researchers, and the public and more effectively focus recovery actions and funds; d) improve stock assessments for large whales; and e) implement modernized data collection and analytical techniques. The problems or information gaps we will address include: population structure, abundance, migratory patterns, and habitat needs. This will be accomplished through biochemical techniques, such as DNA analysis, and modern data collection

and analytical methods such as acoustic assessments and satellite imagery.

Why is this important? One of the major marine conservation success stories over the last 30 years has been the recovery of the Eastern North Pacific gray whale - it was taken off the ESA's List of Endangered and Threatened Wildlife in 1994, largely due to the quality of the stock assessments. This 2003 initiative has the potential to create new conservation success stories in the next few years by scientifically confirming whether populations of large whales currently listed as endangered, such as humpbacks, sperm, fin, bowhead, and blue whales, have recovered sufficiently to be downlisted or delisted (i.e., removed) from the Endangered Species List.

The Kammer Report stated that the agency has never received adequate funding to collect the stock assessment information needed to accurately estimate abundance of the large whales for which we are responsible. This initiative will provide minimum start-up funding to gather this information for an important subset of large whales.

3. Strategic Goals and Objective

Specifically, this initiative will address the RPS objective to Prevent Extinction, by reducing the probability of extinction of endangered marine mammal stocks, by assessing the status and recovery needs and the risk of extinction for endangered large whales. This initiative will benefit RPS resources and the RPS goal because it will establish a funding base to determine the stage of recovery of numerous populations of large whales and initiate innovative sampling and analytical methods that will provide information on the status and trends of whale populations and their habitat requirements. This initiative will include assessment of stocks in domestic and international waters because large whales do not recognize political boundaries and actions taken by governments other than the United States can either enhance or undermine domestic recovery efforts. We will begin in FY03 with a modest program that focuses on populations for which we have some promising information such as stocks of humpbacks, fin, bowheads, sperm, and blue whales. In the outyears the number of stocks would be increased.

This initiative will also support the BSF objective of increasing longterm economic and social benefits to the nation from living marine resources by determining whether unnecessary regulations on commercial fisheries can be lifted; and the SHC objective by helping understand and conserve coastal habitats.

4. Productivity/Cost Savings This initiative will result in cost savings for NOAA and it will improve our productivity. If it is determined that certain populations of large whales are recovered and are delisted, certain industries may reap benefits in reduced regulatory compliance costs. Even if populations are not yet recovered, NOAA will reap benefits in improving our ability to assess stocks more cost-effectively. The information from this initiative will improve our productivity by enabling us to detect changes in the status of large whales to prevent long-term irreversible damage to these populations.

5. Efficiency This initiative will contribute to improved operational effectiveness and efficiency by

improving our stock assessment capabilities and precision of our estimates.

6. Key Schedule Milestones for Implementation

We will focus our efforts on **Improving Stock Assessment Techniques For the Recovery of Stocks of 5 Endangered Large Whale Species** in the following ways.

Step 1 Improve the precision of traditional stock assessments

- **Photographic Identification and Aerial Photogrammetry**
- **Ship Based Surveys**

and concurrently,

Step 1 Expand the use of Innovative Technologies

- **Passive Acoustic Methods**
- **Genetic profiling**
- **Telemetry techniques**

Step 2 Conduct status reviews and evaluate the risk of extinction

Specifically:

For coastally distributed stocks (e.g., humpback and right whales) we will focus on increased use of and improvement in **Photographic Identification and Aerial Photogrammetry**. These are widely used and successful methods to document the presence of individual whales and groups of whales. Low altitude high-resolution photographic techniques allow individual and groups of whales to be photographed and measured with great precision, and provide unique data sets that are not obtainable with traditional survey techniques. Such data serve as the basis for abundance estimates based on resightings of individuals, and provide information on population structure, such as the ratio of adult to juvenile animals, and an indication of individual animal health.

For more remote populations, such as fin and sperm whales, we will focus on **Ship Based Surveys**. Vessel surveys are the traditional means to survey marine mammal populations and will continue to be essential in estimating population abundance of pelagic marine mammal stocks. Unfortunately the cost of ship time has become increasingly expensive, making it extremely difficult to fund enough time on the water to obtain precise population estimates. Vessel time, not including personnel, costs a minimum of \$5,000 per day. To make matters worse, the migratory behavior and range of large whales are frequently different from the small cetacean species that NMFS must also assess, making it difficult to survey both groups of animals in one cruise. Furthermore, ship-based surveys are only effective during

optimal weather conditions and during periods when the whales are most accessible for assessment (e.g., summer feeding and/or winter breeding areas of congregation). During the outyears, we will use a combination of assessment methods to better define the seasonal and spatial distribution of large whales, and therefore optimize survey efforts.

For the rarest species and most remote locations we will focus on the use of **Passive Acoustic Methods**. In partnership with the Navy, OAR, IFAW, and academia, NOAA Fisheries is developing programs to integrate passive acoustic methods into its marine mammal assessment programs. These methods provide biological information on unprecedented spatial and temporal scales (e.g., over large ocean basins). Pilot studies at four of the NOAA Fisheries Regional Science Centers are providing information on the seasonal occurrence, spatial distribution and movement of whale species as they migrate through specific regions and habitats, along with information on the prevailing levels of natural and anthropogenic noise found in habitats utilized by whales. This acoustic technique has expanded our detection range beyond the limits of visual observers, and allows data to be gathered during periods of poor or limited visibility (e.g., nighttime). This initiative would augment existing acoustic surveys and add new ones as well as develop improved sampling and analytical methods.

For all species we must expand studies of stock structure. **Genetic profiling** is essential for evaluating whale population status and estimating risk from incidental mortality and other anthropogenic threats. Genetic profiling of whale populations and other histo-chemical analyses are fundamental components of long term stock structure and contaminant evaluations. Genetic techniques also provide an alternative method for estimation of population abundance. This initiative would include expand tissue analysis to understand stock structure, potential genetic risks to large whale populations due to their small populations, health, and differential habitat utilization.

We must continue to improve **Telemetry techniques** (e.g., satellite tagging) for all species. State-of-the-art tags provide sophisticated ecological data that will expand our capabilities to predict where large whales will occur. Time-depth recorders, acoustic recorders, VHF and satellite radio tags are all relatively small, electronically efficient, and proven techniques which can remain attached to whales for up to a year. They provide information necessary to account for the proportion of animals underwater (and consequently out of sight of visual observation) and improve our population abundance estimates. Funds will be used to modernize NOAA Fisheries telemetry technology and increase the number of tagged animals. In the near term, this initiative will allow us to expand the use of telemetry tags and to continue monitoring the health of previously tagged animals. In the outyears, our focus will be on improving tag effectiveness, such as increasing their transmission life, prolonging their attachment, and enhancing their data acquisition capabilities.

We also propose the use of **Satellite Imagery** in defining and monitoring the habitat of large whales. Satellite imagery provides synoptic information on several environmental conditions important to large whales and is appropriate to address large-scale habitat issues. Knowing and monitoring the critical habitat of these species is useful in inferring their distribution pattern and abundance, in predicting the risk

of extinction if and when environmental conditions change, and in establishing policies designed to minimize conflicts between fishing operations and these marine mammals. In addition, satellite data can be used to assess the availability and variability of a specific set of environmental conditions (= habitat) over time. The oceanographic data

derived from satellites, in conjunction with sighting information and in-situ measured obtained by stock assessments (listed above), will be compiled and used to define the habitat of each species. Once the habitat of a species is established, a habitat model can be developed and applied to satellite data in order to map their probable location and abundance. Near-real time satellite-derived oceanographic imagery of sea-surface temperature (SST), chlorophyll concentration, surface winds and height, will be acquired, processed and distributed by the

NESDIS to CoastWatch Nodes located at two NMFS Laboratories for utilization. First year funding is requested to support 1) the operations and upgrade of these CoastWatch Nodes, and 2) a FTE or equivalent to utilize satellite imagery in defining large whale habitat at two centers.

Finally, we should **Conduct status reviews and evaluate the risk of extinction** for each stock based on the improved assessment information. Projects proposed under the Large Whale Initiative are expected to greatly enhance our knowledge of the abundance, distribution, and stock structure of the 5 large whale populations of interest. NMFS expects that, after 5 years of successful research, new status reviews would be prepared for each stock. These reviews would be used by NMFS management to determine whether it would be appropriate to consider changing each stock's status under the ESA.

7. Base Activities Already in Existence

What we do now? - NOAA Fisheries' regional Science Centers are responsible for conducting assessment surveys for the approximately 150 marine mammal stocks under NMFS jurisdiction. The marine mammal program has had to focus its effort on a handful of the most controversial stocks because the agency has received only a fraction of the funds necessary to pay for this responsibility. This situation is aggravated because large whales are extremely difficult to accurately assess due to their rarity, long dive times, enormous ranges, and gender specific migratory behavior. As a result, status and trend information for most large whale stocks is extremely out of date, and in many cases is highly inaccurate because of the limitations of existing assessment techniques.

What is current NMFS base funding for this initiative? \$87K

Humpbacks = North Pacific \$45K for photo id (NMML); 42K North Atlantic humpbacks

Sperm = \$0

Fin = \$0

Bowhead = \$0 (\$400K passthrough to Alaska Eskimo Whaling Commission)

Blue whales = \$0

02 President's Budget - There is \$1million in the President's budget for stock assessment for marine

mammals. This will be targeted to NMFS science centers (NE, SW, AK) to support stock assessment capabilities for under-assessed stocks, which include: Alaska beluga whales, Hawaiian cetaceans - these include spinner, spotted and striped dolphins, and Gray whales on the west coast.

8. Project Performance Metrics

We will measure our success in year one by the number of assessments completed (between 1 and 5) and the improvement in precision for the estimates. Additional funding in the outyears would lead to determining whether stocks of 1- 5 species of large whales have successfully recovered. Full funding through the outyears would help us meet the RPS performance goal of reducing the probability of extinction of endangered, threatened and candidate species ESUs and increasing the probability that depleted marine mammal stocks will exceed the lower level of optimal sustainable populations. Under the current program we do not have an adequate scientific basis to determine whether certain large whale stocks have recovered.

Near term performance measures

Determine whether there is adequate scientific data to evaluate extinction risk for populations of between 1 and 5 species of large whales;

This means knowing, with a high degree of precision, the population's abundance estimates and trends, population structure, and habitat needs

Conduct status reviews and evaluation of extinction risk

Long term performance measures

- for those not recovered, improve understanding of population recovery needs
- improve technologies (acoustics, genetics, satellite telemetry) for more cost-effective and precise stock assessment
- develop and refine techniques to improve the assessments of all other endangered large whale stocks,
- use advanced technologies to provide more effective assessments for other marine mammal and turtle species managed by NOAA;
- detect fine-scale changes in the status of large whales

9. History - this proposal has not been submitted before.

10. This is not a follow-on initiative. In the FY02 budget, the President requests 1M for marine mammal stock assessments in general. Only a small portion of that money could be used to begin assessments of endangered large whales.

11. Executability - How will the money spend out in quarters? Is it scalable? What is the spending mechanism?

The proposal is scalable by science center and by stock. If full funding is not received, the activities could be scaled back at each center to focus on less stocks or activities could be focused in 1 or 2 centers rather than all 5. The outcome would be a delay in our ability to achieve results.

12. Who are NOAA's partners in this effort?

Current partnerships include: NOAA National Environmental Satellite, Data, and Information Service (NESDIS), the NOAA Sanctuary Program, the NOAA Pacific Marine Environmental Laboratory and Atlantic Meteorological and Oceanographic Laboratory, the Department of the Interior's Minerals Management Service Environmental Studies Program, the U.S. Fish and Wildlife Service, the National Park Service, and U.S. Geological Service (Biological Resources Division); the Department of the Navy's Office of the Chief of Naval Operations and Office of Naval Research; Fisheries Management Councils, State agencies, Colleges and Universities, and local environmental and conservation organizations. This initiative would strengthen and expand these partnerships. In addition, many whale populations range widely over the territorial seas of neighboring nations to the U.S. and its territories. Research and conservation for these highly migratory populations require collaboration and cooperation with foreign governments and recognized international conservation authorities (i.e, Canada, Mexico, Russia, various Caribbean nations, IUCN, IWC, CITES).

Our NESDIS partners will provide satellite-derived oceanographic products in near-real time to NMFS centers to support these activities. This task will in part be funded by the \$50K allocated to this initiative RPS by NESDIS. This NESDIS funding is part of a larger OceanWatch Program, a FY03 initiative to deliver satellite-derived oceanographic data to NOAA Line Offices, and federal and state agencies in near-real time. NESDIS has devoted considerable funding to develop the infrastructure for this activity in past years.

13. Is new authorization required? No. This will be carried out under the MMPA and ESA.

14. What is team ranking? This initiative is strongly supported by all science centers, is supported by NESDIS, and would deliver more for the money invested than probably any other initiative.

15. Congressional interest? There is always Congressional interest in marine mammal issues, particularly from coastal states. If funded in 02, the NOS Sanctuaries Program "Baja to Bering" initiative will raise interest in coastal whale issues and that interest should carry over into 03.

16. Return on investment ? This initiative has the potential to deliver more for the small amount of money than just about any other initiative. Focused investment in this initiative will likely result in candidates for downlisting or delisting under the ESA. This will remove regulatory burdens from marine

industries, from NMFS, and increase our knowledge base on marine species significantly.

17. Information technology resources identified - See initiative description

18. Are R&D components and amounts identified? How much money goes out the door? No R&D is identified since we will be using existing technologies. In the outyears, we might need to expand through new R&D efforts. This money is predominantly for NMFS researchers.

19. Properly justified and supported - see below

20. Budget information

FY 03 Budget Proposal - \$2.1 million specifically for stock assessments for these species. 2.05M from NMFS and 50K from NESDIS. This includes costs for vessel contracts @ \$5 - \$12K per day; aircraft costs @2K per day; telemetry; genetic profiling; outreach and education; international activities; and data management. 5% of this project will be dedicated to international activities; 5% to outreach and education. Data management is incorporated into the overall request. 04 - 07 Budget Proposal - \$2 million per year additional

FY03 Proposal

Personnel: 1 FTE for utilizing NESDIS satellite imagery in defining large whale habitat.

Non-Labor: includes mostly vessel contracts, aircraft costs; laboratory expenses

NMML \$475K:

- bowhead whale aerial photo-identification and analyses of existing data: \$245K
- directed vessel surveys for large whales (fin/humpback) and acoustics (survey the Bering Sea and Gulf of Alaska in alternate years): \$230K

SWFSC \$525K

- photo-id mark recapture studies of humpback and blue whales along CA/OR/WA: \$75K
- genetic stock id work on blue and fin whales in the north. Pacific basin:\$50K
- ship surveys of large whales in the eastern north Pacific using visual and acoustic methods:\$300K
- acoustic surveys of remote blue whale stocks: \$50K
- support of CoastWatch Node to characterize large whale habitat \$50

SEFSC \$475K

- directed acoustic/visual assessment surveys for winter migratory whales (humpbacks) in the Atlantic and Caribbean - \$200K
- directed acoustic/visual assessment surveys for summer whales (sperm, blue, fin) in the Gulf of Mexico, Atlantic - \$200K

- support for NRC post-doc to do passive acoustic detection and assessment of large whales in Caribbean, Atlantic, and Gulf of Mexico -\$ 75K

NEFSC \$600

- directed vessel surveys for fin/sperm whales in summer: \$200K
- telemetry studies on sperm and fin for dive time: \$175K
- pilot study for remote telemetry of passive acoustics data from remote sites: \$100K
- support of NESDIS CoastWatch Node to characterized large whale and sea turtle habitat - \$75K
- NESDIS to provide near-real time satellite imagery and environmental data to NMFS - \$50K

F/PR - \$50K

- tissue and other histo-chemical analyses

FTE Cost - ZP-3 (GS-11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor
Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

Added activities in years two through four:

NMML -- NRC post-doc for passive acoustic detection of whales in the North Pacific using PMEL's instruments; post-doc to estimate risk of extinction given year one data;

SWFSC - Definition of critical habitat for blue, humpback and fin whales in the eastern North Pacific;

SEFSC – expanded surveys of winter and summer migratory whales;

NEFSC – continued surveys and telemetry studies; operational deployment of passive acoustic devices on remote tethered buoys in the Gulf of Maine. Additional post-docs to work on telemetry studies and passive acoustic studies;

F/PR - expanded tissue and histo-chemical analyses

Salmon Habitat Restoration

FY03 Increase - \$1.50M

Apply NOAA's CERCLA Authorities to Improve Habitat for Threatened and Endangered Species

Desired Outcomes: A partnership between NMFS and NOS that combines NOAA's authorities under the Endangered Species Act (ESA) and Superfund (CERCLA) to further the recovery of threatened and endangered species. Initial efforts will focus on West Coast salmon, significantly bolstering NOAA's ability to:

- Address ESA recovery objectives for salmon listed under the ESA;
- Cleanup hazardous waste sites that negatively affect salmon; and
- Restore lost salmon runs and compensate for the interim losses of injured salmonids using natural resource damages collected from responsible parties, problems not addressed in other recovery processes.

Brief Description: Section 7 (a)(1) of the ESA encourages federal agencies to use all of their authorities to further the purposes of the Act. The Coastal Protection and Restoration Program (CPRP) and NOAA's Damage Assessment and Restoration Program (DARP) have a proven capability for protecting and restoring NOAA trust resources threatened and injured by hazardous material releases. This initiative will focus these authorities to complement NMFS activities under the ESA, resulting in greater benefits to threatened and endangered species. Initial efforts will focus on West Coast salmon, where application of existing CERCLA authorities and capabilities will support NMFS salmon recovery efforts by:

- Realizing more protective cleanups from EPA and state remedial actions in salmon habitat;
- Assessing natural resource damages, and use recovered moneys to restore injured salmon and salmon habitat; and
- Addressing ESA consultation issues efficiently by bringing NMFS experts into the early stages of risk assessment, cleanup design, and restoration planning.

What needs to be done by NOAA?

- Develop a new capability focused exclusively on applying CERCLA authorities to benefit threatened and endangered species, beginning with West Coast salmon populations.
- Integrate resultant cleanup and restoration actions with other programs designed to protect and recover salmon.

What are NOAA's partners in this effort and what are we and they currently doing, and will they do?

Successful implementation of NOAA's CERCLA authorities for achieving protective cleanups of hazardous waste sites requires partnerships with EPA and state response agencies. Damage assessment

What will it cost? What are we currently spending?

The following summarizes the FY 03 funding request:

2. Contractor Support \$900,000

Current Funding: The FY 2002 Recover Protected Species Initiative adopted by NOAA included \$2.5 M within “Pacific Salmon Recovery and Restoration” for the agency to apply its CERCLA authorities to support salmon recovery. Although this new funding was not provided, ORR/ DAC initiated efforts in FY 02 to collect and compile data on hazardous material sites, West Coast salmon habitat, and activities in place for addressing contamination. Through these initial investigative efforts, we have concluded that there are significant opportunities for using Trustee authorities under CERCLA to further the restoration of salmon in the Pacific Northwest and Northern California. ORR/ DAC also committed about \$50,000 to identify potential sites within these regions where the application of NOAA’s CERCLA authorities will enhance ongoing salmon recovery efforts.

How will we know if we succeed?

The proposed level of effort will allow NOAA to pursue more protective cleanups at 3-4 hazardous waste sites and recover of funds for restoration at 1-2 hazardous waste sites. The protective measures included in cleanup activities and the funding generated for salmon restoration will be the metrics by which we can measure our success.

Performance Milestones

1. Improve habitat for protected species, especially salmon.
2. Increase protected biodiversity habitat.

Criteria for the FY 03 Joint Budget Review
Strategic Application of NOAA's CERCLA Authorities: West Coast Salmon

1. **Description of Initiative:** Section 7 (a)(1) of the Endangered Species Act (ESA) encourages federal agencies to use all of their authorities to further the purposes of the Act. NOAA's Coastal Protection and Restoration Program (CPRP) and Damage Assessment and Restoration Program (DARP) have proven capabilities for protecting and restoring NOAA trust resources threatened and injured by hazardous material releases. This initiative will focus these authorities to complement NMFS activities under the ESA, resulting in greater benefits to threatened and endangered species. Initial efforts will target on West Coast salmon, where application of existing CERCLA authorities and capabilities will support NMFS salmon recovery efforts by:

- Realizing more protective cleanups from EPA and state remedial actions in salmon habitat;
- Assessing natural resource damages, and using recovered moneys to restore injured salmon and salmon habitat; and
- Addressing ESA consultation issues efficiently by bringing NMFS experts into the early stages of risk assessment, cleanup design, and restoration planning efforts.

2. **Expected Outcome:** A partnership between NMFS and NOS that combines NOAA's authorities under the Endangered Species Act (ESA) and Superfund (CERCLA) to further the recovery of threatened and endangered species. Initial efforts will focus on West Coast salmon, significantly bolstering NOAA's ability to:

- Address ESA recovery objectives for salmon listed under the ESA;
- Cleanup hazardous waste sites that negatively affect salmon; and
- Restore lost salmon runs and compensate for the interim losses of injured salmonids using natural resource damages collected from responsible parties.

3. **Strategic Goals and Objective:** Through this initiative, NOAA will apply its CERCLA authorities to improve habitat for threatened and endangered species. Specific objectives include:

- Developing a new capability focused exclusively on applying CERCLA authorities to benefit threatened and endangered species, beginning with West Coast salmon populations; and
- Integrating resultant cleanup and restoration actions with other programs designed to protect and recover salmon.

4. **Productivity/Cost Savings:** Effective implementation of this initiative will:

- Enhance NOAA's ability to restore Pacific salmon;
- Provide an additional source of funding to address problems affecting salmon by requiring responsible parties to implement and/ or pay for restoration projects following a natural resource damage assessment; and
- Provide a forum for integrating NOAA capabilities and supporting multiple NOAA priorities.

- 5 **Efficiency:** This initiative will contribute to improved operational efficiencies by harnessing the full range of NOAA authorities and capabilities for NMFS and NOS to fulfill the coastal stewardship mission.
6. **Key Schedule Milestones for Implementation:** With the proposed level of funding, OR&R will pursue more protective cleanups at 3-4 hazardous waste sites and recovery of funds for restoration at 1-2 hazardous waste sites. Because the hazardous materials associated with a particular site determine the type(s) and potential severity of injuries, as well as the issues that may be encountered during clean up, injury assessment and restoration planning, site specific milestones will be developed for each site following site selection.
7. **Base Activities Already in Existence:** ORR's Damage Assessment Center (DAC) initiated efforts in FY 01 to collect and compile data on hazardous material sites, West Coast salmon habitat, and activities in place for addressing contamination. Through these initial investigative efforts, we have concluded that there are significant opportunities for using Trustee authorities under CERCLA to further the restoration of salmon in the Pacific Northwest and Northern California. ORR/ DAC has also committed about \$50,000 in FY 01 to identify potential sites that meet selection criteria developed to ensure successful restoration of salmon habitat and thereby enhance ongoing salmon recovery efforts.
8. **Project Performance Metrics:** Metrics by which we will measure our success include: (1) the protective measures included in cleanup activities, (2) funding generated for salmon restoration by polluters, and (3) improved habitat for protected species, especially salmon.
9. **History:** For several years, ORR/ DARP has been considering the pursuit of a resource-based effort to focus the selection of sites for natural resource damage assessment actions. In FY 01, the ORR began exploring opportunities to use NOAA's Trustee authorities under CERCLA to further the conservation of threatened and endangered species. The effort was supported by in-house staff and about \$50,000 for contractor support to assist with the identification, evaluation and selection of potential sites. The FY 02 "Recover Protected Species" initiative adopted by NOAA included \$2.5 M within "Pacific Salmon Recovery and restoration" for a similar, but larger initiative. This requested new FY 02 funding was not provided.
9. **This is not a follow-on initiative.**

Executability - How will the money spend out in quarters? Is it scalable? What is the spending mechanism? This initiative would require steady funding per quarter. Approximately two-thirds of the total request would be used to acquire contractor support for technical and scientific assistance.

10. Who are NOAA's partners in this effort? Funding for this initiative will be used to support a

partnership between NMFS and NOS to apply ESA and CERCLA authorities to benefit the recovery of salmon in priority habitat areas. Successful implementation of NOAA's CERCLA authorities for achieving protective cleanups of hazardous waste sites requires partnerships with EPA and state response agencies. Damage assessment and restoration activities requires partnerships with those responsible for the releases of hazardous materials, as well as with other federal, state and tribal natural resources Trustees.

13. **Is new authorization required?** No, this initiative is based on existing authorities and requirements under the ESA and CERCLA.

14. **What is team ranking?**

15. **Congressional interest:** The Senate Environment and Public Works Committee and members of the House Commerce and Transportation Committee have supported the DARP program. House and Senate members have also supported DARP through the annual Appropriations process.

16. **Return on investment?** This initiative has the potential to provide an additional source of funding to address problems affecting salmon by requiring responsible parties to implement and/ or pay for restoration projects following a natural resource damage assessment.

17. **Information technology resources identified:** Spatial data on hazardous waste sites, mine sites, water quality conditions, and salmon distribution will be combined in a GIS analysis to help identify sites or areas for further consideration.

18. **Are R&D components and amounts identified?** No

19. **Properly justified and supported**

20. **Budget information**

NOS requests \$1.50 M in FY 2003 to develop a new capability focused exclusively on applying CERCLA authorities to benefit threatened and endangered species, beginning with West Coast salmon populations. The requested funding would (1) support staff in NOS, NMFS and GC to ensure that hazardous waste site cleanups are protective of salmon and pursue restoration of salmon habitat injured by hazardous material releases, and (2) provide contractor support to NOAA for scientific and technical expertise.

The following summarizes the FY 03 funding request:

- | | | | |
|-----------------------|-----------|--|--|
| 1. Personnel | \$600,000 | 6 FTE's | 1 FTE NMFS Restoration Center
1 FTE NMFS/ Regional ESA Program
1 FTE GCNR
1 FTE NOS CPRD
2 FTEs for NOS/ DAC |
| 2. Contractor Support | \$900,000 | technical and scientific expertise related to
hazardous material issues at selected sites | |

Position	Grade	Annual Salary	Annual Benefits	Supplies/ Travel	Equipment	Training	Total

Environmental Scientist	11	57,000	12,540	15,000	6,000	1197	91,737
Environmental Scientist	11	57,000	12,540	15,000	6,000	1197	91,737
Environmental Scientist	12	66,000	14,520	15,000	6,000	1386	102,906
Environmental Scientist	12	66,000	14,520	15,000	6,000	1386	102,906
Economist	12	66,000	14,520	12,500	6,000	1386	100,406
Attorney	13	76,000	16,720	10,000	6,000	1596	110,316
						Total	\$600,008

Candidate Conservation and Species Recovery

FY 03 increase - \$2.15M

The Candidate Plus Program⁴ is predicated on working proactively, to respond to species listing petitions, and promote conservation and recovery under the Endangered Species Act (ESA). The intent of the program is to get ahead of the curve and work proactively to conserve species before they need to be listed under the ESA. This initiative requests \$2.15M initiative to save white abalone from extinction (\$1.15M) and expand the candidate species⁵ conservation program (\$1.0M).

1. Desired Outcome: White abalone - Assess abundance and distribution of and recover endangered white abalone population and ensure enforcement of ESA for white abalone. Candidate Species - Conduct research and status reviews of candidate species to determine if they warrant protection under the Endangered Species Act (ESA), determine what can be done to protect them before listing becomes necessary, and disseminate information to the public.

2. Brief Description of New Initiative: White abalone - This initiative includes assessment, monitoring, and rebuilding of abalone populations using protection, translocation and stocking. The endangered white abalone is our first priority, but five abalone species will be assessed and monitored: green (*Haliotis fulgens*), black (*H. cracherodii*), red (*H. rufescens*), white (*H. sorenseni*) and pink (*H. corrugata*). All are in serious decline, with the white abalone already listed as an endangered species and the black abalone a candidate for listing. Recent surveys counted only 157 white abalone in US waters, and 75% of these were isolated individuals with little hope of successful reproduction. If the white abalone is lost, it will be the first commercial extinction in the US in some years. The more abundant red abalone will be used to test techniques, (transport, culture and brood stock management, security measures, and stocking) before using the endangered white abalone. The SWR will hire two enforcement agents to minimize poaching incidents.

Candidate species - Each region and science center will be staffed to address the needs of candidate species, avoiding the delays we have experienced for white abalone recovery. In addition, international trade in candidate species will be reviewed to determine whether listing in the Appendices of the Convention on International Trade in Endangered Species (CITES) should be considered as an adjunct to other conservation efforts. Funding will allow NMFS to obtain the necessary information, conduct status reviews, fund conservation efforts, and disseminate information (outreach). The increase in staff will allow NMFS to inform the public about the needs of the species through education and outreach.

⁴The Candidate Plus Program is responsible for all ESA actions involving species that are not marine mammals, sea turtles, or Pacific salmonids. This includes listed species such as Atlantic salmon, shortnose and Gulf sturgeon, Johnson's seagrass, and white abalone, and candidates such as smalltooth sawfish, Puget Sound Pacific hake, Nassau grouper, and Atlantic sturgeon.

⁵ NMFS defines candidate species as species for which NMFS has information indicating that protection under the ESA may be warranted, but for which it lacks sufficient information on status and threats to make a determination.

NMFS' candidate species list will be revised in FY 2002, and many species are likely to be added. An important objective of NMFS' Strategic Plan is to prevent listings of species under the ESA. The need to list can be removed if actions are taken to mitigate and reverse factors for decline before species reach the point of being threatened or endangered. Conservation actions that could benefit these species include: changes in harvest regulations (rockfishes, groupers), use of marine protected areas (rockfishes, groupers), reduction of effluents (opossum pipefish), stock enhancement (abalone), fish passage improvements (Atlantic sturgeon, Alabama shad), redistributing spawning stock (abalone or other invertebrates), predator and exotic species control, and reducing potential for disease by limiting exotic species introductions. NMFS conducts research and status reviews on these species as funds become available to determine their needs. By learning more about these candidate species, NMFS may be able to recommend protective measures that can be implemented in a proactive manner, without the need to list the species. NMFS will have the capability to develop informational brochures and presentations so that the public will understand what needs to be done to conserve and recover species.

NMFS must meet statutory deadlines under the ESA when petitioned to list a species, and it must conduct a status review based on the best available information. But the status review is only as good as the available information because the tight schedule under the ESA precludes NMFS from doing research that would provide useful information for a status review.

3. What needs to be done by NOAA?

Abalone

The initial step in recovery of the white abalone is a thorough inventory of the habitat and surviving individuals in US waters using a ROV. Divers will mark them with small transponders to facilitate future monitoring. We will model population growth under present conditions and under different recovery scenarios to aid in stock management during recovery.

Strategies for rebuilding the white abalone population include: 1) relocating isolated survivors to common sites to enhance existing, or create new, breeding colonies and, 2) relocating survivors into the lab as brood stock for preservation and restocking (once care, spawning and rearing techniques are well-developed). Implementation of a stocking program will likely require more time than relocation into breeding colonies, because the culture of white abalone has not been demonstrated.

Enforcement agents need to be hired in the SWR to minimize domestic poaching incidents. Cooperative conservation and enforcement is necessary as illegal take and trade between the United and Mexico is suspected. White abalone will be considered for listing in CITES if this determined to be an additional threat to white abalone. Appendix I as an aid to enforcement.

Candidate species

First NMFS needs to review the candidate species list, determine what other species should be on the list, and prioritize them according to their needs (data deficient, in need of a status review, conservation efforts). NMFS needs to direct funds to conduct status reviews or necessary research for these species

(e.g., grouper complex, rockfish complex, Atlantic sturgeon, black abalone), either in-house or through contracts. Research needs include stock assessments, life history studies, and impacts of different factors on the status of these species. In addition, trade in the candidate species should be reviewed in order to consider CITES listing as a conservation tool. The Science Centers and F/PR need to hire FTEs to coordinate efforts directed at candidate species because currently, there are no dedicated FTEs in the Science Centers for this type of work, and F/PR is short-staffed as well. In future years, more FTEs need to be hired in the regions and science centers so that the Candidate Plus Program can work proactively to address the ever increasing number of candidate species. Conservation actions such as the use of marine protected areas or elimination of pollutants can be taken to benefit candidate species before abundance levels plummet and ESA listings become necessary.

4. NOAA'S PARTNERS:

Abalone

Collaboration with Mexico and CDF&G are essential ingredients in any abalone recovery strategy. We propose to establish a cooperative program, through MEXUS and CalCOFI, whereby the SWFSC shall facilitate Mexican surveys for white, and other abalone stocks, in Mexican waters. This cooperative effort will develop a common data base, apply coast-wide population models, assess the genetic structure of the abalone stocks, and conduct joint research projects through technology transfer, education, and mutual assistance.

CDF&G is also an essential member of the abalone recovery team. The State of California is committed to rebuilding abalone populations and is currently developing an Abalone Recovery and Management Plan. We are partnering with CDF&G in surveying white abalone, and working together in planning the October 2001 symposium and workshop on rebuilding abalone stocks. A key issue in preserving abalone is to reduce poaching as the value of white abalone (\$80/lb) is a strong temptation. Therefore, a vigorous and effective outreach and education effort is needed to protect the remaining animals. We propose an abalone watch program and intend to work with the California Sea Grant Advisor Program, and other groups, to establish this needed effort. Other abalone recovery partners include the University of California, National Park Service, Channel Islands Marine Research Institute, NOAA Channel Islands Marine Sanctuary, and US Navy.

Candidate species

Other parts of NOAA (OAR-NURP, Sea Grant), other Federal agencies (USFWS, USGS Biological Resources Division, USFS, BLM, ACOE), State agencies, environmental organizations (e.g., Center for Marine Conservation), academia, and local organizations will play a major role in the identification, research, and conservation of candidate species. F/PR is organizing a workshop in FY 2001 to convene experts on candidate species issues to refine criteria for identification of candidate species and to identify potential candidates. Through collaboration with these entities, it will be possible to develop comprehensive conservation programs that will benefit candidate species. Our partners will conduct important research through subcontracts.

5. What will it cost.

Saving white abalone from extinction and identifying, conducting research on, conserving candidate species and disseminating information will require a major commitment from NMFS of at least \$2.15 million. Additional funds for research and conservation programs and personnel in the following years will be required.

What are we currently spending.

In FY 1997 through FY 2001, the Candidate Plus Program has conducted a competitive annual budget allocation process with an annual fund of \$488K to fund candidate species proposals. This amount has been helpful in bringing some attention to a few candidate species, but many worthwhile and important projects have not been funded. A total of \$200K per year has also been available to fund “other listed species” work (shortnose and Gulf sturgeon and Johnson’s seagrass).

In FY 2000, F/PR provided rationale for an increase for the Candidate Plus Program and was able to fund five FTEs for the Candidate Plus Program. These FTEs will work on candidate species as well as “other listed species” actions. F/PR sent the SWFSC \$72.8K in FY 2000 to help fund a white abalone survey.

In FY 2001, the Candidate Plus Program received a \$600K increase, \$400K of which will fund 4 FTEs to work on ESA actions for “other listed species” (shortnose sturgeon, Johnson’s seagrass, white abalone). The remaining \$200K was added to the \$200K for “other listed species” projects to fund more work on shortnose an Gulf sturgeon, Johnson’s seagrass, and white abalone in FY 2001.

In FY 2002 the Candidate Plus Program did not propose an increase in funding.

Proposed FY 2003 Initiative 5-Year Funding

Component	FY2003	FY2004	FY2005	FY2006	FY2007
White abalone					
Stock assessment and Monitoring					
Shiptime	350	0	0	0	0
Overtime	15	0	0	0	0
Divers	60	0	0	0	0
Tagging	30	(15)	0	0	0
Habitat mapping	60	0	0	0	0
ROV Technician (1 FTE)	50	3	4	3	5
Equipment and Supplies	10	0	0	0	0
Mexican Partnership	40	0	0	0	0
Enhancement					
Aquaculture equipment	100	(200)	(50)	0	0
Aquaculture supplies	10	0	0	0	0
Genetic analysis	35	0	0	0	0
Pathology	40	0	0	0	0
Culture technician (1 FTE)	50	3	4	3	5
Contracts	100	0	(100)	0	0
Planting			100	0	50
Enforcement agents	100	100			
SUBTOTALS	1,150	(109)	(42)	6	60

Candidate Species

Candidate Plus FTEs in Science Centers	400		500		
Candidate Plus FTEs in Regions		500			
Candidate Plus/CITES FTE in F/PR	100				
Research & status reviews	500	500	500	500	500
Proactive conservation efforts		1,000	500	500	500
Subtotals	1,000	2,000	1,500	1,000	1,000
TOTALS	2,150	1,891	1,458	1,006	1,060

FTE Cost - ZP-3 (GS-11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor
Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

6. Results Year One

White abalone will be located in the field using a ship-based, Phantom ROV and the abalone's exact location recorded using a Trackpoint II system and DGPS. High resolution, GIS-referenced bottom topography images will be obtained of potential abalone habitat, using side scan sonar systems. The first year will be focused on developing tagging techniques, using red as surrogates. Acoustic pit tags will be placed on red abalone, in situ, using marine epoxy and some animals will be relocated using a Phantom ROV. We will build the high-security brood-stock maintenance system and evaluate culture techniques using red and pink abalone. We will convene a meeting with Mexican scientists to discuss and develop a framework document for future Mexican surveys and joint research on white abalone. We will hold a meeting with California Sea Grant, and other US partners, to develop an educational strategy for protecting abalone from poaching.

An FTE will be hired in each science center, F/PR, and the SWR (enforcement) so that the program can be implemented in a focused and efficient manner. The current \$488K in the "candidate species" annual allocation bin will be supplemented with \$500K. Status reviews and/or research will be conducted for four species. Using the information gained from these milestones, we will determine whether several candidate species need to be listed under the ESA, and we will find out what can be done for several species to slow declines and promote recovery before listing becomes necessary.

Results Year Two

White abalone will be brought into the laboratory for culture by NOAA divers using mixed gas techniques. We will begin placing telemetry tags on white abalone in the field and continue to locate animals using the ROV and tracking system. High resolution, GIS-referenced bottom topography images will be obtained of potential abalone habitat, using side scan sonar systems. A second enforcement agent will be hired in the SWR.

An FTE will be hired in each region so that the needs of the species in this program can be addressed. Status reviews and/or research will be conducted on several more species. Information will be disseminated, and proactive conservation efforts will be funded. By working with state agencies, academia, environmental organizations, and other Federal agencies, we may be able to leverage funding for conservation programs.

Results Year Three

Culture efforts will continue with successful spawning as the primary goal. Fieldwork will continue with tagging, relocating, and monitoring white abalone as the major efforts. Preliminary estimates of natural mortality rates will be obtained from tagged animals.

A second FTE will be hired in each science center so that the needs of the species in this program can be addressed. More status reviews and research will be conducted; information will be disseminated; proactive conservation efforts will be funded.

Results Year Four

Black abalone will be included in culture efforts. Laboratory spawning of white abalone will be routine. Grow out of juvenile white abalone will be a major focus. Fieldwork will continue with tagging and relocating white abalone as a major effort. Estimates of natural mortality rates will be refined.

More status reviews and research will be conducted; information will be disseminated; proactive conservation efforts will be funded.

Results Year Five

White abalone will be restocked and monitored for the first time. Fieldwork will continue to focus on refining natural mortality rates. Tagging studies will also determine home range and diel movements.

More status reviews and research will be conducted; information will be disseminated; proactive conservation efforts will be funded.

Criteria for the FY 03 Joint Budget Review Candidate Conservation and Species Recovery⁶

1. Description of Initiative: The first part of this initiative includes assessment, monitoring, and rebuilding of abalone populations using protection, translocation and stocking. The **endangered white abalone** is our first priority, but five abalone species will be assessed and monitored: green (*Haliotis fulgens*), black (*H. cracherodii*), red (*H. rufescens*), white (*H. sorenseni*). All are in serious decline, with the white abalone already listed as an endangered species and the black abalone a candidate for listing. Recent surveys counted only 157 white abalone in US waters, and 75% of these were isolated individuals with little hope of successful reproduction. If the white abalone is lost, it will be the first commercial extinction in the US in some years. The more abundant red abalone will be used to test techniques, (transport, culture and brood stock management, security measures, and stocking) before using the endangered white abalone. The SWR will hire two enforcement agents to minimize poaching incidents.

For the second part of this initiative, each Region and Science Center will be staffed to address the needs of **candidate species**,⁷ avoiding the delays we are experiencing for white abalone recovery. In addition, international trade in candidate species will be reviewed to determine whether listing in the Appendices of the Convention on International Trade in Endangered Species (CITES) should be considered as an adjunct to other conservation efforts. The “candidate species” annual budget allocation bin will be increased so that NMFS can obtain the necessary information, conduct status reviews, fund conservation efforts, and disseminate information (outreach). The increase in staff will allow NMFS to inform the public about the needs of the species through education and outreach.

The need to list candidate species can be removed if actions are taken to mitigate and reverse factors for decline before species reach the point of being threatened or endangered. Conservation actions that could benefit these species include: changes in harvest regulations (rockfishes, groupers), use of marine protected areas (rockfishes, groupers), reduction of effluents (opossum pipefish), stock enhancement (abalone), fish passage improvements (Atlantic sturgeon, Alabama shad), redistributing spawning stock (abalone or other invertebrates), predator and exotic species control, and reducing potential for disease by limiting exotic species introductions. NMFS conducts research and status reviews on these species as funds become available to determine their needs. By learning more about these candidate species, NMFS may be able to recommend protective measures that can be implemented in a proactive manner, without the need to list the species. NMFS will have the capability to develop informational brochures

⁶The Candidate Plus Program is responsible for all ESA actions involving species that are not marine mammals, sea turtles, or Pacific salmonids. This includes listed species such as Atlantic salmon, shortnose and Gulf sturgeon, Johnson’s seagrass, and white abalone, and candidates such as smalltooth sawfish, Puget Sound Pacific hake, Nassau grouper, and Atlantic sturgeon.

⁷ NMFS defines candidate species as species for which NMFS has information indicating that protection under the ESA may be warranted, but for which it lacks sufficient information on status and threats to make a determination.

and presentations so that the public will understand what needs to be done to conserve and recover species.

NMFS must meet statutory deadlines under the ESA when petitioned to list a species, and it must conduct a status review based on the best available information. But the status review is only as good as the available information because the tight schedule under the ESA precludes NMFS from doing research that would provide useful information for a status review.

2. Expected Outcome: This initiative will permit NMFS and its partners to recover a severely endangered species and to fund status reviews, research, conservation efforts, and outreach that will help prevent candidate species from being listed under the ESA. Without these funds, white abalone recovery will not be possible because its status is so poor that it will require active intervention to recover it. Without these funds, NMFS must continue responding to petitions to list species under the ESA in a reactive mode. This results in less than satisfactory status reviews and sometimes the need to list a species based on the precautionary principle. If we can conduct the research ahead of time, we can assess the status of candidate species before anyone petitions us to list, and with better information, we can make a more informed determination on the need to list. The knowledge we will gain will allow us to identify conservation efforts that could preclude the need to list the species under the ESA in the future. Millions and maybe billions of dollars can be saved if we can get ahead of the curve because ESA listings can cost the nation a great deal of money, as evidenced by Pacific salmon listings.

3. Strategic Goals/Objectives: This initiative addresses the “**recover ESA listed species**” and the “**prevent listings of species under the ESA**” objectives of NMFS’ Strategic Plan.

4. Productivity/Cost Savings: This initiative will result in increased cost savings for NOAA because less money will be spent on litigation. We are sued regularly for missed statutory deadlines on ESA petitions. Productivity will be improved significantly because staff will be able to spend time on more important activities, such as coordinating conservation efforts that will make a difference for a particular species. This increase in productivity can be measured by comparing the number of actions that staff can take on a timely basis between years.

5. Efficiency: If NMFS is funded adequately, NMFS can be more efficient and effective in the way it conducts business. It is much more efficient to collect information ahead of time than to try to make the best decision based on inadequate information. Conservation efforts will be much more effective if we are armed with the information to do the proper analyses. And of course, white abalone recovery can be effective only if NMFS can conduct the surveys to locate the few remaining abalone and develop the aquaculture methodology that is specific for this species. Success can be measured by the quality of the actions NMFS takes with and without necessary information and funding. In 20 years, white abalone could show signs of recovery if we receive the funding in FY 2003, and the candidate species list will be recognized as a conservation tool instead of a precursor to ESA listing.

6. Key Schedule Milestones for Implementation: This will be very dependent on the needs of each particular species. Status reviews and research will be conducted, staff will be hired, and white abalone

efforts will begin as soon as possible in the order outlined in the Results Year 2003-2007 section of the initiative.

Base Activities: In FY 1997 through FY 2001, the Candidate Plus Program has conducted a competitive annual budget allocation process with an annual fund of \$488K to fund candidate species proposals. This amount has been helpful in bringing some attention to a few candidate species, but many worthwhile and important projects have not been funded. A total of \$200K per year has also been available to fund “other listed species” work (shortnose and Gulf sturgeon and Johnson’s seagrass).

In FY 2000, F/PR provided rationale for an increase for the Candidate Plus Program and was able to fund five FTEs for the Candidate Plus Program. These FTEs will work on candidate species as well as “other listed species” actions. F/PR sent the SWFSC \$72.8K in FY 2000 to help fund a white abalone survey.

In FY 2001, the Candidate Plus Program received a \$600K increase, \$400K of which will fund 4 FTEs to work on ESA actions for “other listed species” (shortnose and Gulf sturgeon, Johnson’s seagrass, white abalone). The remaining \$200K was added to the \$200K for “other listed species” projects to fund more work on shortnose sturgeon, Johnson’s seagrass, and white abalone in FY 2001.

In FY 2002 no increase was requested for the Candidate Plus Program.

Project Performance Metrics:

A more accurate assessment of the distribution and abundance of white abalone in Mexico and California

Development of a successful aquaculture technique for white abalone

status reviews conducted

candidate species for which sufficient research has been conducted

candidate species with improved status from conservation efforts

9. History: The candidate species portion of this initiative has been submitted before, and in FY 2001, we received funding for some of it with an increase of \$600K to address the needs of “candidate plus” species, which includes listed species such as shortnose sturgeon, Johnson’s seagrass, and the white abalone. For FY 2003, we have put together a more proactive initiative which links the needs of candidate species to the urgent needs of these species once they are listed under the ESA (as in the white abalone).

10. For Follow-on Initiatives: The program received an increase of \$600K in FY 2001 to support shortnose sturgeon, Johnson’s seagrass and white abalone recovery. The proposed FY2003

enhancements will allow NMFS to staff the Candidate Plus Program adequately so that the needs of candidate species and listed species can be addressed on a timely basis. The Science Centers have no FTEs in the Candidate Plus Program, so this initiative will begin to build the program. The annual allocation for candidate species will be large enough to entertain more proposals. In the past years, many extremely worthwhile proposals have been turned down because the funding bin has been so small. And if this initiative is funded, NMFS can coordinate with other agencies and fund essential conservation planning efforts so that the need to list some of these candidate species will be removed.

11. Executability: Barring hiring restrictions, all necessary contracts and hiring can be accomplished within six months of an appropriation/allocation.

12. Partnerships:

Abalone

California Department of Fish and Game (CDF&G) is an essential member of the abalone recovery team. The State of California is committed to rebuilding abalone populations and is currently developing an Abalone Recovery and Management Plan. We are partnering with CDF&G in surveying white abalone, and working together in planning the October 2001 symposium and workshop on rebuilding abalone stocks. A key issue in preserving abalone is to reduce poaching as the value of white abalone (\$80/lb) is a strong temptation. Therefore, a vigorous and effective outreach and education effort is needed to protect the remaining animals. We propose an abalone watch program and intend to work with the California Sea Grant Advisor Program, and other groups, to establish this needed effort. Other abalone recovery partners include the University of California, National Park Service, Channel Islands Marine Research Institute, NOAA Channel Islands Marine Sanctuary, and US Navy. Mexico is also an important partner for white abalone recovery.

Candidate species

Other parts of NOAA (OAR-NURP, Sea Grant, NOS), other Federal agencies (USFWS, USGS Biological Resources Division, USFS, BLM, ACOE), State agencies, environmental organizations (e.g., Center for Marine Conservation), academia, and local organizations will play a major role in the identification, research, and conservation of candidate species. F/PR is organizing a workshop in FY 2001 to convene experts on candidate species issues to refine criteria for identification of candidate species and to identify potential candidates. Through collaboration with these entities, it will be possible to develop comprehensive conservation programs that will benefit candidate species. Our partners will conduct important research through subcontracts.

Users of this product are the general public, who will appreciate the fact that conservation efforts have helped prevent ESA listings. Various industries (hydropower, irrigation, fishing, dredging) will be happy to see fewer conflicts between what they do and threatened and endangered species. By working with all of our co-managers and constituents, we can spend our efforts in conservation now so that species are not brought to the brink later.

13. Is New Authorization Required? This initiative is authorized under the ESA. No legal issues need to be addressed before this initiative can be implemented.

14. What is Team ranking for this initiative? What is the LO ranking? This proposal has not yet been ranked by the team or LO.

15. Congressional interest? Representatives from districts nationwide will be interested in this initiative if it doesn't get funded because the result of not providing sufficient funding to the Candidate Plus Program is an increased number of listings and litigation. These two items always bring congressional attention.

16. What is the Return on Investment for this initiative? How does this compare with the other proposals? It is difficult to predict the return on investment, but it will be significant. Avoiding ESA listings and litigation, not to mention an extinction in the next 10 years (white abalone), will result in much greater economic benefits than the amount of funding requested. The white abalone is an extremely valuable mollusk, and when it is recovered to the point of sustainability and delisted, a better managed fishery can take place, providing employment and high revenue (most recent \$80/lb exvessel value, when fishery was permitted).

17. Are Information Technology Resources identified? At the moment, no, but the Candidate Plus Program will benefit from all the ongoing work toward improving our capabilities in the information technology field. NMFS will be able to take advantage of improved tracking systems and internet/intranet postings to better coordinate recovery, research, and conservation actions.

18. Are R&D components and amounts identified? How much money goes out the door? Yes, R&D in white abalone aquaculture is planned, in conjunction with the CDF&G, University of California, National Park Service, Channel Islands Marine Research Institute, NOAA Channel Islands Marine Sanctuary, and US Navy. There is a large interest in developing successful methodology to recover the white abalone population through aquaculture. The funds we receive will help leverage funds from these other agencies or groups.

19. Is the budget request properly justified and supported? Yes, the initiative explains how the funds will be used and provides sound rationale for it.

20. Budget Information Required:

Component	FY2003	FY2004	FY2005	FY2006	FY2007
White abalone					
Stock assessment and Monitoring					
Shiptime	350	0	0	0	0
Overtime	15	0	0	0	0
Divers	60	0	0	0	0
Tagging	30	(15)	0	0	0
Habitat mapping	60	0	0	0	0
ROV Technician (1 FTE)	50	3	4	3	5
Equipment and Supplies	10	0	0	0	0
Mexican Partnership	40	0	0	0	0
Enhancement					
Aquaculture equipment	100	(200)	(50)	0	0
Aquaculture supplies	10	0	0	0	0
Genetic analysis	35	0	0	0	0
Pathology	40	0	0	0	0
Culture technician (1 FTE)	50	3	4	3	5
Contracts	100	0	(100)	0	0
Planting			100	0	50
Enforcement agents	100	100			
SUBTOTALS	1,150	(109)	(42)	6	60

Candidate Plus FTEs in Science Centers	400		500		
Candidate Plus FTEs in Regions		500			
Candidate Plus/CITES FTE in F/PR	100				
Research & status reviews	500	500	500	500	500
Proactive conservation efforts		1,000	500	500	500
Subtotals	1,000	2,000	1,500	1,000	1,000
TOTALS	2,3500	1,891	1,458	1,006	1,060

FTE Cost - ZP-3 (GS 11/13)

Labor 61.0 K
 Benefits 15.7 @ 25.7% of direct labor
 Overhead 22.4K @ 35% NOAA and NMFS
 Training 0.9K @ 1.5% of direct labor
 Awards 0.9K @ 1.5% of direct labor
 Travel 3.0K
 Equipment 2.0K

Total	\$105.9K
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Recovery of Highly Endangered Marine Turtles

FY 03 increase -\$2.10M

1. Desired Outcome: Protect globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles from extinction. Implement a comprehensive domestic program to reduce interactions with fishing gear with the goal of exporting gear modifications for reducing fishery interactions globally.

2. Brief Description of Initiative:

Sea turtles are an integral component contributing to the ecological biodiversity of many marine environments and they play a key role in maintaining ecological balance in the communities they inhabit. Sea turtles are an integral part of coral reef communities, where much of the marine biodiversity is found. Recent studies have defined the important ecological role of certain species of sea turtles in maintaining the delicate balance of sponge diversity and abundance in coral reef communities. We have only scratched the surface in our understanding of the overall ecological role of these higher trophic level species. The elimination, through extinction or vast reduction in population size, may cause catastrophic changes in coral reef or estuarine ecological communities, upon which humans depend significantly.

In addition to ecosystem value, ecotourism is an important component of tourist revenue in coastal areas, both in the United States and abroad, and the controlled and organized viewing of nesting sea turtles is a valuable component of this ecotourism in many places. Eco-tourism to sea turtle nesting beaches, when conducted in an environmentally sound manner, may provide significant benefits to economically depressed regions of the world. Highly successful eco-tourism programs and associated sea turtle oriented, community/cottage industries at nesting beaches such as that developed in Brazil have the potential to conserve sea turtles and enhance living standards in many parts of the world. Dwindling of the nesting populations of sea turtle species may impact important seasonal tourist revenues. The northern subpopulation of the loggerhead is seriously impacted by deep-water longline fisheries operating in the U.S. Atlantic, Azores, western Europe and in the Mediterranean. The loggerhead turtle also utilizes the nearshore waters along the Atlantic seaboard. Gillnet fisheries targeting such finfish as cod, herring, and monkfish operate in these nearshore waters and likely result in serious negative impacts to loggerheads. Management measures to reduce incidental capture in these fisheries may have a negative economic impact, unless gear strategies can be developed that allow the two to co-exist. A large component of this initiative seeks to achieve gear technology solutions. Conversely, the incidental take of sea turtles by commercial fisheries, if not assessed and addressed through conservation measures, may result in closures of economically valuable fisheries.

Sea turtle populations around the globe are under tremendous pressure from incidental capture in domestic and international fisheries, directed harvest (both legal and illegal), and other anthropogenic threats (e.g., vessel collisions, habitat degradation). The western North Atlantic (Surinam and adjacent areas) nesting population of the olive ridley (*Lepidochelys olivacea*) has declined more than 80 percent since 1967. Incidental capture in fisheries and directed take are primarily responsible for the decline. The hawksbill turtle, decimated by directed harvest for its shell, is considered critically endangered worldwide. Populations of hawksbills in the western Pacific, southeast Asia, and the Caribbean have

been significantly reduced, some to a mere fraction of their historic abundance. The eastern Pacific green or “black turtle” nesting population is less than 1% of historic levels in Mexico, and continues to decline. The loggerhead population in Australia and adjacent waters of the South and Indo-Pacific has collapsed, resulting at least in part due to incidental capture in high seas fisheries. In the U.S. the northern nesting subpopulation of loggerhead turtles, occurring from northeast Florida through North Carolina, has shown no evidence of recovery despite more than a decade of intensive conservation efforts. Considerable attention has been focused on the incidental capture of sea turtles in numerous domestic fisheries, both state and federally managed as well as foreign fisheries. Several high profile legal challenges in the U.S. have resulted in court-ordered management of domestic fisheries. NOAA has the opportunity to partner with the states and the international community at the government, academic, industry, and private level to assess the status of sea turtle populations and to work toward effective solutions that ensure recovery and conservation of these species, especially with regard to incidental capture. Sea turtles are an integral part of the marine environment, in particular the coral reef community and highly productive estuarine systems, as well as the high seas. Knowing and monitoring the critical habitats of these species is useful in inferring the distribution patterns of species and their abundance, in predicting their risk of extinction if and when environmental conditions change, and in establishing policies designed to reduce the mortality of these protected species. Through partnership with NESDIS, NMFS will explore ways in which remote sensing might be utilized to implement real-time management actions.

3. What needs to be done by NOAA?

- Identify stock home ranges through genetic analyses.
- Determine migratory patterns and primary foraging areas to facilitate bi-national and multi-national conservation efforts. Integrate remotely sensed oceanographic data with distribution and migration data.
- Build capacity through technical training workshops, partnership programs, and the development of educational materials.
- Implement multi-lateral agreements (e.g., Interamerican Convention for the Conservation and Protection of Marine Turtles, CITES). Negotiate and implement a multi-lateral agreement for the Indian Ocean Region.
- Assist developing nations with conservation, research, and recovery programs for highly endangered sea turtles.
- Develop and export gear solutions for non-shrimp fisheries to reduce incidental take.
- Support long-term in-water index surveys to monitor population trends. Support and implement additional in-water index surveys where needed.
- Determine subpopulation demographics through DNA techniques.
- Implement identified management strategies to reverse population declines.

4. Who are NOAA’s partners in this effort and what will they do?

NOAA will partner with the Department of Interior - U.S. Fish and Wildlife Service, the Department of State - Office of Marine Conservation, the U.S. Agency for International Development, the States, especially those that have entered into ESA Section 6 agreements with NMFS. NMFS and State Fish and Wildlife agencies will assist in monitoring and enforcement efforts, research activities, status reviews, and implementation of management measures.. We will use the funds secured through this initiative to leverage resources from these agencies to maximize available funding and enhance conservation efforts. Non-governmental organizations and industry will play an important role in capacity building, through hands-on efforts and network-building to achieve conservation benefits. We envision a strong role and working partnership with the National Fish and Wildlife Foundation (NFWF), the International Union for the Conservation of Nature and Natural Resources (IUCN), the Wider Caribbean Sea Turtle Network (WIDECAST), as well as other NGO's in the international community. We will work closely, through the Department of State and through established NOAA/NMFS relationships with foreign fishery and wildlife agencies to promote conservation and recovery activities for sea turtles and to assist these nations in implementing effective programs and management actions especially with regard to the export of solutions identified to reduce incidental capture in various fisheries.

5. What will it cost? What are we currently spending?

NMFS has historically allocated a proportionally low level of funding toward the recovery and conservation of sea turtles in the domestic and international arena. While some new funds have been realized in recent years these have been primarily targeted toward crisis-management efforts to prevent extinction. In FY01, NMFS funding for sea turtle recovery is on the order of 10M, including all FTE personnel and benefits, contracts, program funding, travel, etc. Sufficient funds have not been available to commit to proactive efforts or to build the domestic and international capacity necessary to effectively address critical conservation challenges and ensure species survival. There have been no long-term committed funds to develop international partnerships, support the implementation of multi-lateral agreements, and provide funding support for priority research especially with regard to the development of gear-based solutions. In many cases, especially with regard to developing nations, minimal funding support realizes maximum conservation gains on-the-ground. The proposed initiative funding will result in the implementation of an integrated domestic and international program for sea turtles that places a high value in developing solutions to incidental capture in various fisheries, capacity building in developing nations, international partnerships, and multi-lateral agreements to conserve sea turtles. The net result will be stemming the extinction crises which face many populations of sea turtles both in the U.S. and throughout the world. Additionally, NOAA would be well-placed as an international leader in conservation and recovery efforts for sea turtles.

The following summarizes funding needs:

Component	FY2001	FY2002	FY2003	FY2004	FY2005
Identify Stocks	100K	100K	50K	50K	25K
Identify Migratory Routes and Foraging Habitats	350K	250K	150K	150K	75K
Develop/Implement Gear Solutions	750K	750K	500K	500K	250K
Support/Implement Index Monitoring	250K	250K	250K	250K	250K
Build Capacity	100K	200K	100K	100K	50K
Implement Agreements	100K	100K	100K	100K	50K
Assist Developing Nations	200K	200K	100K	100K	100K
Collaborate with States	250K	250K	250K	250K	200K
TOTAL	2.10M	2.0M	1.5M	1.5M	1.0M

Proposed Funding Recipients and FTE Request in Parentheses:

	FY2003	FY2004	FY2005	FY2006	FY2007
NMFS	1.30M(4)	1.25M(3)	700K(1)	700K(1)	450K
NESDIS	50K	100K	50K	50K	50K
Contractors	750K	750K	750K	750K	500K

FTE Cost - ZP-3 (GS - 11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor
Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

Criteria for the FY 03 Joint Budget Review Recovery of Highly Endangered Marine Turtles

1. Description of Initiative: Provide a brief, but specific description of the proposed initiative.

Although we are legally obligated to recover threatened and endangered sea turtles, we are prevented from doing this in the most efficient manner by our lack of knowledge about their biology and habits - where do they go, what do they eat, where are they most likely to cross paths with commercial fisheries and be killed or injured in their nets?

This project is designed to help us to collect this information and to share it with other range countries. By comparing this information with fisheries effort, we can better understand the impact of fisheries on these sea turtle populations and better prioritize management efforts to mitigate adverse effects to determine where management measures should be focused first.

This project will protect globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles from extinction. It will assist NOAA in collecting the biological data necessary to efficiently implement a comprehensive domestic program to reduce interactions with fishing gear and to export gear modifications for reducing fishery interactions globally, in order to protect our domestic investment in turtle conservation.

Specifically, under this proposal, NMFS will:

- Identify stock home ranges through genetic analyses.
- Determine migratory patterns and primary foraging areas to facilitate bi-national and multi-national conservation efforts. Integrate remotely sensed oceanographic data with distribution and migration data.
- Build capacity through domestic and international technical training workshops, partnership programs, and the development of educational materials.
- Implement multi-lateral agreements (e.g., Interamerican Convention for the Conservation and Protection of Marine Turtles, Convention on International Trade in Endangered Species (CITES), Protocol for Specially Protected Areas and Wildlife in the Wider Caribbean Region (SPAW). Negotiate and implement a multi-lateral agreement for the Indian Ocean Region.
- Assist developing nations with conservation, research, and recovery programs for highly endangered sea turtles.
- Develop and export gear solutions for non-shrimp fisheries to reduce incidental take.
- Support long-term in-water index surveys to monitor population trends. Support and implement additional in-water index surveys where needed.
- Determine subpopulation demographics through DNA techniques.
- Implement identified management strategies to reverse population declines.

2. Expected outcome: What will this initiative do for NOAA and/or the nation? Quantify the benefits from funding this initiative. Provide information on the current state of the proposal. ex. How bad is the situation and how much better it will be if funding is provided?

Sea turtle populations around the globe are under tremendous pressure from incidental capture in domestic and international fisheries, directed harvest (both legal and illegal), and other anthropogenic threats (e.g., vessel collisions, habitat degradation). The western North Atlantic (Surinam and adjacent areas) nesting population of the olive ridley (*Lepidochelys olivacea*) has declined more than 80 percent since 1967. Incidental capture in fisheries and directed take are primarily responsible for the decline. The hawksbill turtle, decimated by directed harvest for its shell, is considered critically endangered worldwide. Populations of hawksbills in the western Pacific, southeast Asia, and the Caribbean have been significantly reduced, some to a mere fraction of their historic abundance. The eastern Pacific green or “black turtle” nesting population is less than 1% of historic levels in Mexico, and continues to decline. The loggerhead population in Australia and adjacent waters of the South and Indo-Pacific has collapsed, resulting at least in part due to incidental capture in high seas fisheries. In the U.S. the northern nesting subpopulation of loggerhead turtles, occurring from northeast Florida through North Carolina, has shown no evidence of recovery despite more than a decade of intensive conservation efforts.

The northern subpopulation of the loggerhead is seriously impacted by deep-water longline fisheries operating in the U.S. Atlantic, Azores, western Europe and in the Mediterranean. The loggerhead turtle also utilizes the nearshore waters along the Atlantic seaboard. Gillnet fisheries targeting such finfish as cod, herring, and monkfish operate in these nearshore waters and likely result in serious negative impacts to loggerheads. Management measures to reduce incidental capture in these fisheries may have a negative economic impact, unless gear strategies can be developed that allow the two to co-exist. A large component of this initiative seeks to achieve gear technology solutions. Conversely, the incidental take of sea turtles by commercial fisheries, if not assessed and addressed through conservation measures, may result in closures of economically valuable fisheries.

Sea turtles are an integral part of the marine environment, in particular the coral reef community and highly productive estuarine systems, as well as the high seas. Knowing and monitoring the critical habitats of these species is useful in inferring the distribution patterns of species and their abundance, in predicting their risk of extinction if and when environmental conditions change, and in establishing policies designed to reduce the mortality of these protected species. In addition to ecosystem value, ecotourism is an important component of tourist revenue in coastal areas, both in the United States and abroad, and the controlled and organized viewing of nesting sea turtles is a valuable component of this ecotourism in many places. Through partnership with NESDIS, NMFS will explore ways in which remote sensing might be utilized to implement real-time management actions.

Sea turtles are highly migratory species. Thus, to ensure success, their protection must be undertaken by all the countries in whose waters they occur. Conservation efforts in one country can be enhanced or undermined by other countries. Considerable attention has been focused on the incidental capture of sea turtles in numerous domestic fisheries, both state and federally managed as well as foreign fisheries.

Several high profile legal challenges in the U.S. have resulted in court-ordered management of domestic fisheries. Therefore, to protect U.S. investment in sea conservation, cooperative measures with other sea turtle range countries are crucial. NOAA has the opportunity to partner with the states and the international community at the government, academic, industry, and private level to assess the status of sea turtle populations and to work toward effective solutions that ensure recovery and conservation of these species, especially with regard to incidental capture.

3. Strategic Goals/Objective: Provide the goal and objective that this initiative supports. Are there other SP goals and objectives that will benefit from this initiative, if yes list them.

Recover Protected Species -

Recover and maintain protected species populations

Reduce conflicts that involve protected species

Build Sustainable Fisheries -

Increase longterm economic and social benefits to the nation from living marine resources

Sustain Healthy Coasts -

Protect, conserve, and restore coastal habitats and their biodiversity.

Foster well-planned and revitalized coastal communities that are compatible with the natural environment, minimize the risks from natural hazards, and provide access to coastal resources for the public's use and enjoyment.

4. Productivity/Cost Savings: Will initiative result in increased cost savings for NOAA? Will it improve upon our productivity? If so, how will we measure it?

By comparing collected information with fisheries effort, we can better understand the impact of fisheries on these sea turtle populations and better prioritize management efforts to mitigate adverse effects to determine where management measures should be focused first.

5. Efficiency: How will this contribute to the operational effectiveness and efficiency? How will we measure success?

See 4, above.

***6. Key Schedule Milestones for Implementation** - Provide milestones by quarter, delineate the steps needed to get to desired outcome and how resources will be allocated to each step.

***7. Base Activities: Identify base activities already in existence. Provide funding amount, LO, line item, and previous accomplishments.**

8. Project Performance Metrics: Provide performance measures for the initiative.

- Identify stock home ranges through genetic analyses
- measured by number of rookeries surveyed and number of individuals examined
- Determine migratory patterns and primary foraging areas to facilitate bi-national and multi-national conservation efforts. Integrate remotely sensed oceanographic data with distribution and migration data.
- measured by identification of important habitats and implementation of management strategies to address fishing effort
- Build capacity through domestic and international technical training workshops, partnership programs, and the development of educational materials
- measured by number of training programs. Partnership programs and educational materials developed
- Implement multi-lateral agreements (e.g., Interamerican Convention for the Conservation and Protection of Marine Turtles, Convention on International Trade in Endangered Species (CITES), Protocol for Specially Protected Areas and Wildlife in the Wider Caribbean Region (SPAW). Negotiate and implement a multi-lateral agreement for the Indian Ocean Region
- measured by % participation in international activities
- Assist developing nations with conservation, research, and recovery programs for highly endangered sea turtles
- measured by number of international partnerships
- Develop and export gear solutions for non-shrimp fisheries to reduce incidental take
- measured by gear technologies developed and number of international partnerships
- Support long-term in-water index surveys to monitor population trends. Support and implement additional in-water index surveys where needed
- measured by number of surveys undertaken
- Determine subpopulation demographics through DNA techniques
- measure by number of rookeries surveyed and number of individuals examined
- Implement identified management strategies to reverse population declines
- measured by identified management measures implemented

9. History: Has this initiative been submitted previously? If so, what was the result - indicate approved funding levels at: NOAA, DOC, OMB, Congress submissions What changes have been made to strengthen it from past submissions.

NMFS has historically allocated a proportionally low level of funding toward the recovery and conservation of sea turtles in the domestic and international arena. While some new funds have been realized in recent years these have been primarily targeted toward crisis-management efforts to prevent extinction. In FY01, NMFS funding for sea turtle recovery is on the order of 10M, including all FTE personnel and benefits, contracts, program funding, travel, etc. Sufficient funds have not been available to commit to proactive efforts or to build the domestic and international capacity necessary to effectively address critical conservation challenges and ensure species survival. There have been no long-term committed funds to develop international partnerships, support the implementation of multi-lateral

agreements, and provide funding support for priority research especially with regard to the development of gear-based solutions. In many cases, especially with regard to developing nations, minimal funding support realizes maximum conservation gains on-the-ground.

The proposed initiative funding will result in the implementation of an integrated domestic and international program for sea turtles that places a high value in developing solutions to incidental capture in various fisheries, capacity building in developing nations, international partnerships, and multi-lateral agreements to conserve sea turtles. The net result will be stemming the extinction crises which face many populations of sea turtles both in the U.S. and throughout the world. Additionally, NOAA would be well-placed as an international leader in conservation and recovery efforts for sea turtles.

***10. For Follow-on Initiatives: How much did we get in FY 01 for the initial initiative? How much did we spend? What did we get for it? How will proposed enhancements contribute to results and outcomes? What will the increase/delta of funding to an existing initiative provide vs the current planned spending profile**

11. Executability:

How will the money spend out by FY quarters Is it scalable? Break out scalable blocks with cost and activities What is the spending mechanism? Will we need a new contract vehicle or can we use an existing one?

12. Partnerships: Other agencies involved? Are there Partnership opportunities? List all users of this product to demonstrate public benefits.

NOAA will partner with the Department of the Interior - U.S. Fish and Wildlife Service, the Department of State - Office of Marine Conservation, the U.S. Agency for International Development, the States, especially those that have entered into ESA Section 6 agreements with NMFS. NMFS and State Fish and Wildlife agencies will assist in monitoring and enforcement efforts, research activities, status reviews, and implementation of management measures.. We will use the funds secured through this initiative to leverage resources from these agencies to maximize available funding and enhance conservation efforts. Partnerships with intergovernmental organizations such as CITES and the United Nations Environment Programme (UNEP) will ensure that domestic conservation efforts are complemented by international actions. Non-governmental organizations and industry will play an important role in capacity building, through hands-on efforts and network-building to achieve conservation benefits. We envision a strong role and working partnership with the National Fish and Wildlife Foundation (NFWF), the International Union for the Conservation of Nature and Natural Resources (IUCN), the Wider Caribbean Sea Turtle Network (WIDECAST), as well as other NGO's in the international community. We will work closely, through the Department of State and through established NOAA/NMFS relationships with foreign fishery and wildlife agencies to promote conservation and recovery activities for sea turtles and to assist these nations in implementing effective programs and management actions especially with regard to the export of solutions identified to reduce incidental capture in various fisheries.

13. Is new authorization required? If no, cite relevant authorization. Cite any legal issues needed to be addressed before initiative can be implemented (ie. NEPA compliance, licenses, ESA)

All activities are pursuant to the Endangered Species Act and the Magnuson-Stevens Act. No new authorization is needed.

14. What is Team ranking for this initiative? What is the **LO ranking**?

Proposals were not ranked.

15. Is there and/or will there be any congressional interest in this project? If so, can you identify the representative and the district that will interested.

There is intense Congressional interest in this project. Considerable attention has been focused on the incidental capture of sea turtles in numerous domestic fisheries, both state and federally managed as well as foreign fisheries. Several high profile legal challenges in the U.S. have resulted in court-ordered management of domestic fisheries. Congress highly desires solutions to situations which impede fishing.

***16. What is the Return on Investment** for the initiative? How does this compare with the other proposals?

***17. Are Information Technology Resources** identified?

***18. Are R&D components** and amounts identified? How much money goes out the door?

19. Is the budget request properly justified and supported?
Yes.

20. Budget Information Required:

Proposed Funding Recipients and FTE Request in Parentheses:

	FY2003	FY2004	FY2005	FY2006	FY2007
NMFS	1.30M(4)	1.25M(3)	700K(1)	700K(1)	450K
NESDIS	50K	100K	50K	50K	50K
Contractors	750K	750K	750K	750K	500K

FTE Cost - ZP-3 (GS-11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor

Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

1. Desired Outcome: What will funding of this initiative accomplish? What problem are we solving?

The Recover Protected Species Program will provide thorough, complete and timely environmental and economic analyses to its customers and for its recovery programs. The RPS program will reduce backlogs in protected species conservation consultations and assessments and develop comprehensive recovery programs as required by law.

2. Description of the FY 2003 Initiative: Provide a concise description of the problem/issue and its impacts or benefits to RPS resources.

The Recover Protected Species Program is not adequately meeting its statutory and regulatory requirements, under the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), the Regulatory Flexibility Act (RFA) the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). Funding will support personnel in all NMFS regions, science centers and headquarters to conduct required research, data gathering, analysis, and document preparation to assess the impacts of human activities that affect protected species (Economics research and analyses, ESA Section 7 consultation, NEPA analyses). These include the range of Federal actions, including management of marine fisheries. The initiative will also support assessment of the environmental and socio-economic impacts, costs and benefits of implementing conservation programs for protected species. These actions include ESA protective regulations (4d rules), required conservation measures, e.g., MMPA marine mammal-fisheries take reduction plans, policies to implement the ESA and MMPA more effectively, and the designation of critical habitat for ESA-listed species. NMFS does not currently possess the necessary resources or tools to meet increasing these analytic requirements, and will continue to suffer legal challenge and delay without specific attention to this problem..

This initiative is based on:

- Repeated court rulings against the National Marine Fisheries Service (NMFS) that found inadequacies in the environmental and economic analysis supporting rulemaking, and
- Interest in using thorough environmental and economics to promote scientifically sound protected resources conservation.

3. What needs to be done by NOAA? What activities should NOAA do to implement this initiative? What is NOAA doing now? What are the near and long-term priorities for NOAA's planned actions?

Improving analysis will require new resources and the coordination of existing resources in a more strategic manner, additional capacity for data collection, and increased access to expertise and analysis across the agency. Expanded partnerships and improved communication will also leverage resources more effectively across the Department of Commerce (DOC), the Federal government, and with NOAA constituents. Rigorous and timely biological, economic and social analysis can in turn lead to more efficient and less burdensome regulations, reduced pressure for litigation, and an improved ability

to shape incentives for conservation. These changes will make NOAA and the DOC institutionally stronger and more effective stewards. Achieving these outcomes will require not only new resources, but also a strong vision and effective leadership.

What we do now? - Cooperation with the NMFS sustainable fisheries program is lacking so that when interactions take place they are usually over proposed activities that may affect protected species. Seldom if ever is pre-planning or scoping of impacts of proposed actions undertaken. NMFS operates under authorities or requirements of NEPA, ESA, MMPA and the Magnuson Stevens Act. The requirements of one may satisfy some of the requirements of another given their similar frameworks for assessing and evaluating alternatives and providing opportunities for public review and comment. However, a lack of awareness and coordination has fisheries actions too often proceeding without adequate consideration of protected species impacts. When they do come under scrutiny, the timing is compressed and decisions are rushed. This lack of cooperation is replicated with other Federal agencies (COE, Navy, USFS) to lesser degrees, but only because NMFS is the RPS program's primary client. Similarly, the RPS program has very limited capabilities to meet its own statutory requirement to develop and implement necessary conservation measures (listings conservation rules, policies, designations) and to assess the socio-economic impacts of conservation measures, policies and critical habitat designations on the human environment.

What activities should we do? - First, we need to improve our ESA and MMPA environmental and economic impacts assessment capabilities to coordinate with our primary customer, the sustainable fisheries program, so that we can undertake planning and assessment of proposed actions prior to some statutory deadline of MSA, ESA or MMPA. This will avoid the trainwrecks of two programs operating independent of any awareness or cooperation with one another, until a fishery is closed by a Federal judge for inadequate environmental assessments, or unacceptable impacts to protected species. This capability needs to be extended to serve our other Federal partners as well.

Secondly, we need to enhance our internal capability to assess the impacts of our own conservation measures to ensure that all costs and benefits are considered. The recover protected species program is responsible for some 60 marine species threatened or endangered with extinction as well as some thirty candidates for ESA listing, and numerous marine mammals stocks identified as "strategic" because they have unsustainable interactions with commercial fisheries. Many of these species have no plan or policy for their recovery, and many have no criteria identified to determine when they are healthy and not threatened or endangered extinction. All require conservation and to do this effectively, requires the resources to assess the impacts of threats and eliminate or mitigate them (see cooperating species program initiatives) and to assess the impacts to the human environment of implementing those conservation measures.

MMPA Specific Needs - Regulatory actions taken under the Marine Mammal Protection Act need to be in compliance with the procedural and analytical requirements of Executive Order (E.O.) 12866 and the Regulatory Flexibility Act (RFA). NMFS must be able to determine if a proposed action is "significant" (E.O. 12866) and whether it has a "significant economic impact on a substantial number of

small entities” (RFA). Additionally, compliance with NEPA can also include economic consideration of the impact of proposed actions.

Immediate needs

E.O. 12866 and RFA analyses are generally conducted by economists in the regions or centers. However, PR’s consulting role in protected species management requires that we understand economic requirements and be able to review and provide meaningful input into the products. Additionally, an economist in PR would maintain PR’s oversight role in protected species management by ensuring that we are addressing economic concerns at the appropriate time during development of a regulation.

Longer-term needs

- Economic analysis of regulatory actions (e.g., take reduction plans, conservation plans) to comply with E.O. 12866 and RFA.
- Informal analysis of management actions for feasibility, costs, and benefits.
- Economic analysis of protected species policies and guidance for feasibility, costs, and benefits.
- Programmatic MMPA economic analysis.
- Research on non-use/indirect value of protected species for use in E.O. 12866 analysis (e.g., inputs into cost-benefit analysis)
- Socio-economic characterization of small businesses for use in RFA analysis.
- Research to understand fishing industry behavior (e.g., how a regulation to close an area may shift effort, and how that effort shift could impact protected species management).
- Economic feasibility studies of technological fixes (e.g., different types of nets, pingers)
- Economic impacts of conservation plan implementation.
- Understanding of recreational (e.g., tourism) benefits of protected species conservation.
- Economic evaluation of use conflicts on protected species (e.g., conflict between fishing interests, shipping interests, and right whale conservation efforts)

ESA Program Specific Needs - Under the provisions of the Endangered Species Act, the only specific exception to considering economic impacts is the determination about whether to list a species. Listing decisions are to be made solely on the best available scientific and commercial information.

Section 4 - Critical Habitat

The ESA requires an analysis of economic impacts when determining whether to designate critical habitat for threatened/endangered species. Specifically, section 4 states that the Secretary shall designate critical habitat and make revisions on the basis of the best information available after taking into consideration the economic, and any other relevant impact, of designation.

Section 4 - Protective Regulations for Threatened Species

Regulations require an economic analysis under the Regulatory Flexibility Act.

Section 4 - Recovery Plans

Section 4 specifies that in developing recovery plans, the Secretary must incorporate in each plan estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal as well as to achieve intermediate steps towards that goal.

Section 7

Biological Opinions: If reasonable and prudent alternatives to the action are required to avoid jeopardy to the species or adverse modification of critical habitat, NMFS must suggest alternatives which can be taken by the Federal agency or applicant in implementing the agency action. Regulations implementing this statute require that alternatives to be "actions that are economically and technically feasible."

All ESA Policies

Formal policies and guidance published for public comment require an economic analysis under the Regulatory Flexibility Act.

4. *Who are NOAA's partners in this effort and what are we and they currently doing, and will they do?* Identify current and planned Federal, state and private partners and the results they've achieved or plan to achieve.

Partners include: NMFS's Sustainable Fisheries Program nationwide, and Federal action agencies (Navy, COE, MMS) and NOAA programs, whether RPS or otherwise; these are our customers. Our record of results is spotty as noted above in 3. The Department of the Interior's U.S. Fish and Wildlife Service, is a partner in this initiative as we share jurisdiction for several species and we continue to develop and implement joint policies to implement both the ESA and MMPA. This initiative would strengthen and expand these partnerships.

5. *What will it cost? What are we currently spending?* What is current base funding for this initiative? Where is it? What is requested in the FY02 budget proposal (also considered base)? What is the year one ('03) cost (increase over current base funding). What are outyear cost increases – from FY04-07. Specify any personnel and other supporting cost needs. In addition, dedicate appropriate costs to international aspects of conservation, outreach and education, and data management. Build the initiative in incremental blocks for year 1 and for out years. What are the "must have" components of the proposal, e.g., personnel, equipment, etc, and what might be contained in successive pieces.

FY 03 - Costs to implement a two-pronged strategy to assess external program impacts on protected species and to assess and improve RPS program conservation initiatives.

Meeting NMFS' RPS Statutory and Regulatory Requirements (annual increases in \$ x millions)						
Theme	Base Funding	FY 03	FY04	FY05	FY06	FY06
Economics Research, Analysis and Assessment	0	.60 6 FTEs nationwide	.40 4 FTEs nationwide	.30 3 FTEs nationwide	.30 3 FTEs nationwide	.30 3 FTEs nationwide
Section 7 Analysis and Assessment	.80	.80 8 FTEs nationwide	.70 6 FTEs nationwide	.40 4FTEs nationwide	.40 4FTEs nationwide	.40 4FTEs nationwide
NEPA Analysis and Assessment	.30	.60 6 FTEs nationwide	.40 4 FTEs nationwide	.30 3FTEs nationwide	.30 3FTEs nationwide	.30 3FTEs nationwide
Total	1.10	2.00	1.50	1.00	1.00	1.00

FTE Cost - ZP-3 (GS-11/12)

Labor	61.0 K
Benefits	15.7 @ 25.7% of direct labor
Overhead	22.4K @ 35% NOAA and NMFS
Training	0.9K @ 1.5% of direct labor
Awards	0.9K @ 1.5% of direct labor
Travel	3.0K
Equipment	2.0K
Total	\$105.9K

6. *How will we know if we succeed?* What results will we see after one year of the proposed funding increase? How will this be different from results of current program funding? How will we measure our success or failure?

RPS Objective .Prevent Extinction	
Reduce the probability of extinction of _ endangered, _ threatened and _ candidate species ESUs	The mortality of strategic marine mammal stocks incidental to commercial fishing will be at insignificant levels
Reduce the number and risks of incidental and direct takes (lethal and sub-lethal)	
-Develop 15 additional regulations and policies -Evaluate impacts of 20 additional human activities -Perform 75 additional consultations	

Criteria for the FY 03 Joint Budget Review Meeting RPS Statutory and Regulatory Requirements

1. Description of Initiative: Funding will support personnel in all NMFS regions, science centers and headquarters to conduct required research, data gathering, analysis, and document preparation to assess the impacts of human activities that affect protected species (Economics research and analyses, ESA Section 7 consultation, NEPA analyses). These include the range of Federal actions, including management of marine fisheries. The initiative will also support assessment of the environmental and socio-economic impacts, costs and benefits of implementing conservation programs for protected species. These actions include ESA protective regulations (4d rules), required conservation measures, e.g., MMPA marine mammal-fisheries take reduction plans, policies to implement the ESA and MMPA more effectively, and the designation of critical habitat for ESA-listed species. NMFS does not currently possess the necessary resources or tools to meet increasing these analytic requirements, and will continue to suffer legal defeat without specific attention to this problem..

2. Expected Outcome: The Recover Protected Species Program will provide thorough, complete and timely environmental and economic analyses to its customers and for its recovery programs. The RPS program will reduce backlogs in protected species conservation consultations and assessments and develop comprehensive recovery programs as required by law.

3. Strategic Goals and Objective: This initiative supports the Recover Protected Species goal and the objective to prevent the extinction of endangered, threatened and strategic (marine mammal) stocks.

4. Productivity/Cost Savings: Investing in this initiative will provide increases in productivity and cost savings by a projected reduction in litigation resulting from inadequate environmental analyses and assessments.

5. Efficiency: Support for dedicated staff will provide consistency and certainty of required analyses and assessments. Use of contracts, IPAs and fellowships will be used as needed in lieu of permanent personnel hires.

6. Key Schedule Milestones for Implementation: During FY2003 staffing will take place in all NMFS regions, science centers and headquarters to provide for the first time RPS Program-dedicated

7. Base Activities Already in Existence: The RPS program has limited ESA Section 7 expertise (\$.8M), but not nearly enough to ensure adequate consultations are conducted. It has no economics capability and very limited NEPA capability (\$.3M). Most often the program depends on the BSF program for economic analyses, which is also woefully understaffed and too often ignorant of RPS program issues and requirements.

8. Project Performance Metrics: Performance under this initiative will reduce the number and risks of incidental and direct takes to endangered, threatened and strategic stocks. Funding will allow the

development of regulations and policies, evaluation of the impacts of human activities on the timely and complete performance of consultations. Funding will provide a 200% increase in capability from current levels.

RPS Objective .Prevent Extinction	
Reduce the probability of extinction of _ endangered, _ threatened and _ candidate species ESUs	The mortality of strategic marine mammal stocks incidental to commercial fishing will be at insignificant levels
Reduce the number and risks of incidental and direct takes (lethal and sub-lethal)	
-Develop 15 additional RPS regulations and policies -Evaluate impacts of 20 additional human activities - fishing, dredging, etc. -Perform 75 additional consultations	

9. History: This proposal has no previous history

10. This is not a follow-on initiative.

11. Executability - How will the money spend out in quarters? Is it scalable? What is the spending mechanism? Funding will be used for hires in NMFS regions, science centers and headquarters. The numbers, one in each FMC are certainly executable. Managers will have flexibility to use IPAs, academic fellowships and contracts as necessary in lieu of permanent hires.

12. Who are NOAA's partners in this effort? Partners include: NMFS's Sustainable Fisheries Program nationwide, and Federal action agencies (Navy, COE, MMS) and NOAA programs, whether RPS or otherwise; these are our customers. Our record of results is spotty as noted above in 3. The Department of the Interior's U.S. Fish and Wildlife Service, is a partner in this initiative as we share jurisdiction for several species and we continue to develop and implement joint policies to implement both the ESA and MMPA.

13. Is new authorization required? No, requirements are provided in ESA, MMPA, NEPA, RFA and their implementing regulations.

14. What is team ranking? This initiative has not yet been ranked by the team or LO.

15. Congressional interest? There is high congressional interest in this issue – both the Steller sea lion and Pacific sea turtle - fisheries interactions have highlighted the need for more complete NEPA, ESA Section 7 and economic analysis. Congress has recognized similar needs in fisheries management and provided increases \$8M for the BSF program in FY01

16. Return on investment? The return on NOAA's investment is an expert staff and resources available to conduct the necessary analyses of environmental and economic impacts of human activities in a timely and accurate manner; one that stand legal challenge and ensures the necessary basis for the conservation of protected resources.

17. Information technology resources identified: None identified, however, funding will support expansion of current ESA Section 7 tracking database to include economic and NEPA information.

18. Are R&D components and amounts identified? How much money goes out the door?

19. Properly justified and supported: Yes – see full proposal and budget summary below

20. Budget information:

Meeting NMFS' RPS Statutory and Regulatory Requirements (annual increases in \$ x millions)						
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Travel	3.0K
Equipment	2.0K
Total	\$105.9K

NMFS Galveston Laboratory Renovation - Phase III

FY 2003 Increase - \$1.0M

1. Desired Outcome: Funding this initiative will be the first step in addressing a deficiency in an existing program. That deficiency is the inability to properly use existing laboratory and office space to accomplish required research and administrative functions. Some years back, a renovation program was begun to address this deficiency. The Galveston Laboratory Campus Renovation Program consisted of three Phases. All three Phases were designed in the early 1990's, and the first two Phases have been constructed and are operational. This final Phase III will complete the renovation and allow the Laboratory to meet its mission. Funding for Phase III could be divided into three components, as follows:

FY03	Phase IIIa:	Mechanical/Electrical Work	\$1,000,000
FY04	Phase IIIb:	Buildings 306 & 307	\$2,520,000
FY05	Phase IIIc:	Buildings 301, 303, 305, Site Work	\$2,310,000

Funding of the FY03 Phase IIIa portion will provide the electrical and mechanical infrastructure for the future renovations of Phases IIIb and IIIc. Currently, the electrical distribution, potable water distribution, natural gas distribution, and communications distribution are inadequate to provide proper service to the referenced buildings.

2. Brief Description of Initiative:

The problem:

1. The final Phase III renovations to the Galveston Laboratory are necessary due to building deterioration from long and hard usage. The 90-year-old buildings need to be repaired with the buildings updated to meet the current code requirements. These buildings are part of a collection of **national historic buildings** that remain from old Ft. Crockett. An engineering report states that the two story facility, building 306, has its first floor in danger of collapse. A portion of the facility substructure is shored with beams and jacks. In fact, the engineering report also states that the rest of the Phase III buildings (all single story) are suffering from structural problems (structural concrete spalling, and other deterioration), and the floors are in danger of failure.

The impact:

1. Without funding for this initiative, the Phase III buildings will either not be utilized or will not be utilized to their fullest, all of which will seriously hamper the Laboratory's mission. Building 306, which accounts for about 40% of the total Phase III renovations, is no longer being used as an office and laboratory space and is currently being used as a storage facility. Since office and laboratory usage in Bldg. 306 (the most seriously affected by structural damage) have been eliminated, operations across the entire Laboratory are severely hampered and in a work around mode. The staffs are currently forced into one of the recently modified buildings. This results in science functions not being available because

of utilization of Laboratory space for office use. The remainder of the buildings in Phase III are undergoing continued deterioration due to age and elements of the weather. The deterioration of all of the Phase III buildings, especially for Bldg. 306, is a **serious safety problem**, and a threat to the employees. Roofs are in need of repair and external and internal damage has occurred over the years due to settling and weather.

- A. Without continuation of the total renovation of the campus, the excellent effort and results, and to a large degree the funds invested for the first two Phases, will have been effectively lost, since some of the space of the Phase III buildings will be unavailable for use for the intended mission of the Laboratory. The lost space will continue to increase in size as the buildings continue to deteriorate.
- B. The following operational impacts will adversely affect programs at the Galveston Laboratory if the Phase III of the facility renovation is not completed:

(a) Not having Laboratory space restored to its intended use - Many of our personnel are in temporary "swing space" designed and constructed for other purposes. If the next phase is not completed, archive storage space, shop space, garage space and wet laboratory space will continue to be used for other purposes (such as offices and equipment storage) and the original intended functions will not be available. Moreover, personnel occupying this "swing space" will be hampered by having to permanently make do in quarters not designed for their work.

(b) Not being able to continue cooperative programs with academic and NOAA partners - Part of the long term plan for renovation of the Galveston Laboratory is to be able to continue cooperative interaction with other research elements within NOAA and the academic community. Our cooperative programs have succeeded in the past largely due to on-site presence of research partners such as the Texas A&M University's Marine Mammal Program (we have a Cooperative Research and Education MOU with TAMU), Texas Sea Grant, NOS, NOAA supported Marine Mammal Stranding Network and NOAA supported Sea Turtle Stranding Network. In addition, continued development joint appointments between TAMU and NMFS (as well as with other universities) will be impaired by lack of research space to support graduate students, IPAs and faculty appointments. These on-site cooperative programs are highly effective in supporting specialized NOAA research needs at minimal cost.

(c) Not re-establishing our fisheries research Library - The Galveston Laboratory's Research Library has been in temporary storage and will not become functional until the next phase of our renovation incorporating Building 306 is completed. This is a highly specialized fisheries Library, with holdings not in other local libraries, that is critical for supporting our scientists as well as academic users.

(d) Not being able to return personnel from off-station quarters - Some personnel (such as in the Protected Species Branch) are located outside of our main compound at facilities not intended as research offices. These personnel are not connected to our Local Area Network

(LAN) and do not have access to data and software provided on our LAN. They are further hampered by being physically away from administrative, office and other support staff.

(e) Not having a conference center - Dedicated space for conferences continues to be a very important operational element of our facility. Due to the national attention given the Western Gulf, we require dedicated space to hold meetings, workshops, training sessions and conferences related to science and enforcement of fisheries, habitat and protected species that we regularly hold with Gulf states, scientists, fishing industries, conservation groups, educators, students and the public. Building 305, currently being used as a temporary archive storage, is slated to become our much needed conference center.

(f) Not removing personnel from temporary trailers - Some personnel, equipment and Biological samples are currently in temporary trailers. These are not viable as long term option due to excessive cost (some are monthly rental units), poor condition and code violations (such electrical, environmental compliance and handicap accessibility). Also, these trailers and their contents are highly vulnerable to loss during a hurricane.

(g) Not being able to fill key research positions - We have partly accommodated the current space reduction due to renovation by temporarily not filling several key research vacancies at the Laboratory. Among these are three Ph.D. level positions for (1) an ecosystems modeler, (2) a fishery population biologist, and (3) a sea turtle scientist, as well as supporting technicians and graduate students. The inability to recruit has a serious negative impact on the high priority program.

3. *What needs to be done by NOAA?*

Activities from NOAA:

- a. NOAA is currently updating the Phase III designs for conformance to current codes, corrections through lessons learned from Phases I and II, and phased into several smaller projects to allow completion over a three-year period, starting in FY03. This updating of design includes demolition of the existing buildings ground floor slabs, and abatement of asbestos material. The major renovations encompass the replacement of existing HVAC systems, plumbing systems, electrical systems, floor coverings, repairing and refinishing walls, windows and partitions, fire protection systems, hydraulic elevators, repair and construction of the new roofs and installing restrooms that comply with handicapped accessibility standards. This design update will be complete before the end of FY01.
- b. **Strategic Goals:** The NOAA SEFSC Laboratory at Galveston addresses NOAA's Environmental Stewardship Mission involving Strategic Goals to:
 - (a) Build Sustainable Fisheries,

(b) Recover Protected Species, and

(c) Sustain Healthy Coasts.

Through NOAA's vision for building sustainable fisheries the Galveston Laboratory seeks to maintain the commercially valuable Gulf of Mexico shrimp fishery and to rebuild recreational fish stocks such as red drum and red snapper. The Galveston Laboratory also conducts activities that conserve and recover marine mammals and sea turtles as protected species. The Laboratory is long known for its involvement in recovering the world's most endangered sea turtle, the Kemp's ridley. Due to its location in the western Gulf, the Galveston Laboratory is also involved in numerous activities related to NOAA's vision for sustaining healthy coasts. These activities include essential fish habitat (EFH) determinations, restoration of coastal wetlands, evaluation of the "Dead Zone" west of the mouth of the Mississippi, assessing the impacts of the petrochemical industry on living marine resources, and evaluating all causes and effects leading to mass mortalities and productivity losses of marine animals.

4. Who are NOAA's partners in this effort and what are we and they currently doing, and will they do?

The NOAA Laboratory at Galveston regularly **cross-cuts** between NMFS, NOS and OAR (Sea Grant) within NOAA and outside of NOAA with the Gulf of Mexico Fisheries Management Council, the Gulf States Marine Fisheries Commission, the Gulf and Atlantic Fisheries Foundation, Texas and Louisiana State Wildlife and Fisheries and Environmental Resources Departments, the District Office of the U.S. Army Corps of Engineers in Galveston, the U.S. Coast Guard in Galveston, Corpus Christi and New Orleans, the U.S. Environmental Protection Agency Region IV in Dallas, the U.S. Fish and Wildlife Service in Clear Lake and Atlanta and the Government of Mexico Department of Fisheries, and universities including Texas A&M University, University of Houston, University of Southwestern Louisiana and Louisiana State University.

5. What will it cost? What are we currently spending?

Previous Phases I and II, plus an additional mission related facility, have resulted in an investment of approximately \$8M. The current FY01 investment of \$90K is being used to update and segregate the existing Phase III design into separate smaller projects. This effort will be complete FY01. There is no FY02 budget request. Supporting costs, personnel, equipment, and operation and maintenance is included in this initiative and follow-on initiatives necessary to complete the Phase III Laboratory Renovations. Following are the steps involved in the Phase III Renovation:

FY03	Phase IIIa:	Mechanical/Electrical Work	\$1,000,000(current initiative)
FY04	Phase IIIb:	Buildings 306 & 307	\$2,520,000
FY05	Phase IIIc:	Buildings 301, 303, 305, Site Work	\$2,310,000

6. How will we know if we succeed?

To monitor the performance of the project, the project manager uses an automated project management control system to provide visibility into actual progress of each activity of the project. The control system provides for tracking actual schedule performance against project plans. This visibility helps the project and program team members identify problems areas and take corrective actions when actual results deviate significantly from plans. The project team performs quarterly reviews to ensure that the project is progressing on schedule and within budget. Project cost accounting is reviewed and reconciled on a monthly basis and deviation reports prepared as necessary.

1. Initiative Description: This initiative will fund the last phase of the project to renovate and restore the NMFS Galveston Laboratory. These renovations are necessary due to building deterioration that results from long and hard usage. The 90-year-old buildings, part of a collection of national historic buildings that remain from old Ft. Crockett, need to be rehabilitated and updated to meet current code requirements and eliminate safety and system failings. An engineering report states that the first floor of the two story facility, Building 306, is in immediate danger of collapse. A portion of the facility substructure is shored with beams and jacks. The engineering report further states that the rest of the Phase III buildings (all single story) also suffer from structural problems (structural concrete spalling, and other deterioration), and the floors are in danger of failure.

Without funding for this initiative, the Phase III buildings will either not be utilized or will not be utilized to their fullest capacity, all of which will seriously hamper the Laboratory's mission. Building 306, which accounts for about 40% of the total Phase III renovations, is no longer being used as an office and laboratory space and is currently being used as a storage facility. Since office and laboratory usage in Bldg. 306 (the most seriously affected by structural damage) have been eliminated, operations across the entire Laboratory are severely hampered and in a "work around" mode. The staffs are currently forced into one of the recently modified buildings. This results in science functions not being available because of utilization of Laboratory space for office use. The remainder of the buildings in Phase III are undergoing continued deterioration due to age and elements of the weather. The deterioration of all of the Phase III buildings, especially for Bldg. 306, is a serious safety problem, and a threat to the employees. Roofs are in need of repair and external and internal damage has occurred over the years due to settling and weather.

2. Expected Outcome: Funding this initiative will complete the restoration of the Galveston Laboratory and bring this important facility into full operability. This will be the first step in addressing a deficiency in an existing program. That deficiency is the inability to properly use existing laboratory and office space to accomplish required research and administrative functions. Some years back, a renovation program was begun to address this deficiency. The Galveston Laboratory Campus Renovation Program consisted of three Phases. All three Phases were designed in the early 1990's, and the first two Phases have been constructed and are operational. This final Phase III will complete the renovation and allow the Laboratory to meet its mission. Funding for Phase III could be divided into three components, as follows:

FY03	Phase IIIa:	Mechanical/Electrical Work	\$1,000,000
FY04	Phase IIIb:	Buildings 306 & 307	\$2,520,000
FY05	Phase IIIc:	Buildings 301, 303, 305, Site Work	\$2,310,000

Funding of the FY03 Phase IIIa portion will provide the electrical and mechanical infrastructure for the future renovations of Phases IIIb and IIIc. Currently, the electrical distribution, potable water distribution, natural gas distribution, and communications distribution are inadequate to provide proper service to the referenced buildings.

3. Strategic Goals/Objective: The NOAA SEFSC Laboratory at Galveston addresses NOAA's

Environmental Stewardship Mission involving Strategic Goals to:

- (a) Recover Protected Species
- (b) Build Sustainable Fisheries, and
- (c) Sustain Healthy Coasts.

Through NOAA's vision for recovering protected species, the Galveston Laboratory conducts activities that conserve and recover marine mammals and sea turtles as protected species. The Laboratory is long known for its involvement in recovering the world's most endangered sea turtle, the Kemp's ridley. The Galveston Laboratory also seeks to maintain the commercially valuable Gulf of Mexico shrimp fishery and to rebuild recreational fish stocks such as red drum and red snapper. Due to its location in the western Gulf, the Galveston Laboratory is also involved in numerous activities related to NOAA's vision for sustaining healthy coasts. These activities include essential fish habitat (EFH) determinations, restoration of coastal wetlands, evaluation of the "Dead Zone" west of the mouth of the Mississippi, assessing the impacts of the petrochemical industry on living marine resources, and evaluating all causes and effects leading to mass mortalities and productivity losses of marine animals.

4. Productivity/Cost Savings: This project will allow the Galveston Lab to continue functioning at its current high level of productivity, and eliminate the risk of sudden disruption or termination of research and operations. Faulty and deteriorated facility systems generate lost time and unnecessary expenditures related to stop-gap repairs and the secondary effects of failing electrical service, water intrusion, etc. Cost savings will be realized through a planned and properly managed project rather than an emergency response as systems fail.

Without completion of the total renovation of the campus, the excellent effort and results, and to a large degree the funds invested for the first two Phases, will have been effectively lost, since some of the space of the Phase III buildings will be unavailable for use for the intended mission of the Laboratory. Space for operations will continue diminish as the buildings continue to deteriorate.

5. Efficiency: The following operational impacts are *inefficiencies* that will continue to adversely affect programs at the Galveston Laboratory if the Phase III of the facility renovation is not completed:

(a) Not having Laboratory space restored to its intended use - Many of our personnel are in temporary "swing space" designed and constructed for other purposes. If the next phase is not completed, archive storage space, shop space, garage space and wet laboratory space will continue to be used for other purposes (such as offices and equipment storage) and the original intended functions will not be available. Moreover, personnel occupying this "swing space" will be hampered by having to permanently make do in quarters not designed for their work.

(b) Not being able to continue cooperative programs with academic and NOAA partners - Part of the long term plan for renovation of the Galveston Laboratory is to be able to continue cooperative interaction with other research elements within NOAA and the academic community. Our cooperative programs have succeeded in the past largely due to on-site presence of research partners such as the Texas A&M

University's Marine Mammal Program (we have a Cooperative Research and Education MOU with TAMU), Texas Sea Grant, NOS, NOAA supported Marine Mammal Stranding Network and NOAA supported Sea Turtle Stranding Network. In addition, continued development joint appointments between TAMU and NMFS (as well as with other universities) will be impaired by lack of research space to support graduate students, IPAs and faculty appointments. These on-site cooperative programs are highly effective in supporting specialized NOAA research needs at minimal cost.

(c) Not re-establishing our fisheries research Library - The Galveston Laboratory's Research Library has been in temporary storage and will not become functional until the next phase of our renovation incorporating Building 306 is completed. This is a highly specialized fisheries Library, with holdings not in other local libraries, that is critical for supporting our scientists as well as academic users.

(d) Not being able to return personnel from off-station quarters - Some personnel (such as in the Protected Species Branch) are located outside of our main compound at facilities not intended as research offices. These personnel are not connected to our Local Area Network (LAN) and do not have access to data and software provided on our LAN. They are further hampered by being physically away from administrative, office and other support staff.

(e) Not having a conference center - Dedicated space for conferences continues to be a very important operational element of our facility. Due to the national attention given the Western Gulf, we require dedicated space to hold meetings, workshops, training sessions and conferences related to science and enforcement of fisheries, habitat and protected species that we regularly hold with Gulf states, scientists, fishing industries, conservation groups, educators, students and the public. Building 305, currently being used as a temporary archive storage, is slated to become our much needed conference center.

(f) Not removing personnel from temporary trailers - Some personnel, equipment and Biological samples are currently in temporary trailers. These are not viable as long term option due to excessive cost (some are monthly rental units), poor condition and code violations (such electrical, environmental compliance and handicap accessibility). Also, these trailers and their contents are highly vulnerable to loss during a hurricane.

(g) Not being able to fill key research positions - We have partly accommodated the current space reduction due to renovation by temporarily not filling several key research vacancies at the Laboratory. Among these are three Ph.D. level positions for (1) an ecosystems modeler, (2) a fishery population biologist, and (3) a sea turtle scientist, as well as supporting technicians and graduate students. The inability to recruit has a serious negative impact on the high priority program.

6. Key Schedule/Milestones: The Galveston Laboratory Renovation Project consisted of three Phases. All three Phases were designed in the early 1990's, and the first two Phases have been constructed and are operational. This final Phase III will complete the renovation and allow the Laboratory to meet its mission. Funding for Phase III is divided as follows:

FY03	Phase IIIa:	Mechanical/Electrical Work	\$1,000,000
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FY04	Phase IIIb:	Buildings 306 & 307	\$2,520,000
FY05	Phase IIIc:	Buildings 301, 303, 305, & Site Work.	\$2,310,000

Funding of the FY03 Phase IIIa portion will provide the electrical and mechanical infrastructure for the future renovations of Phases IIIb and IIIc. Currently, the electrical distribution, potable water distribution, natural gas distribution, and communications distribution are inadequate to provide proper service to the referenced buildings.

7. Base Activities: The first two phases of the Galveston Laboratory Renovation were completed utilizing funds (~ \$8M) from the NOAA Facilities and Maintenance Account.

8. Project Performance Metrics: NOAA's efforts will follow the guidelines of its Project Development, Approval and Management (PDAM) process for major construction. The PDAM process provides structure and discipline to assure the successful accomplishment of the various stages of planning, scoping, design, construction and occupancy of the facility. The La Jolla Laboratory Project Team includes a multi disciplinary group of professionals to direct project related efforts and to ensure that its responsibilities are completed in a logical, consistent and predictable manner that will drive the project to a timely and cost effective completion. The project management team will utilize industry standard project management control systems to provide visibility into the actual progress of each activity of the project. The control system provides for tracking actual schedule performance against project plans. This visibility helps the project and program team members to identify problem areas and take corrective actions when actual results deviate significantly from plans. The project team performs quarterly reviews to ensure that the project is progressing on schedule and within budget. Project cost accounting is reviewed and reconciled on a monthly basis and reconciliation reports prepared quarterly. .

9. History: This initiative was included in NOAA's budget request to DOC for FY 2002, but denied by DOC "at this time to allow for the many high priority NOAA construction projects in the pipeline..."

10. Follow-on Update: N/A

11. Executability: \$910K would be obligated in the first quarter of the fiscal year to support the contract award for the mechanical/electrical repairs/upgrades and for administrative support. The remaining \$90K would be expended throughout the remaining three quarters for administrative support costs. The mechanical/electrical contract effort could not realistically be segregated to create a "scalable" block.

12. Partnerships: The NOAA Laboratory at Galveston regularly cross-cuts between NMFS, NOS and OAR (Sea Grant) within NOAA and outside of NOAA with the Gulf of Mexico Fisheries Management Council, the Gulf States Marine Fisheries Commission, the Gulf and Atlantic Fisheries Foundation, Texas and Louisiana State Wildlife and Fisheries and Environmental Resources Departments, the District Office of the U.S. Army Corps of Engineers in Galveston, the U.S. Coast Guard in Galveston, Corpus Christi and New Orleans, the U.S. Environmental Protection Agency Region IV in Dallas, the U.S. Fish and Wildlife Service in Clear Lake and Atlanta and the Government of Mexico Department of Fisheries, and universities

including Texas A&M University, University of Houston, University of Southwestern Louisiana and Louisiana State University.

13. Authorization/Legal: None required.

14. Ranking:

15. Congressional Interest:

U.S. Congressman, Home District
Rep. Nick Lamson, TX-9

Senate Committee on Appropriations--Subcommittee on Commerce, Justice, State and Judiciary
Senate Commerce Committee--Subcommittee on Oceans and Fisheries
Member – Sen. Kay Bailey Hutchison, TX

House Committee on Appropriations
House Committee on Resources--Subcommittee on Fisheries, Conservation, Wildlife and Oceans
Member – Rep. Solomon Ortiz, TX-27

16. Return on Investment: The investment will provide critical correction of the Laboratory's deteriorated ability to address NMFS mission responsibilities in the Gulf of Mexico, including:

1. Stock assessment of \$500 million shrimp fishery.
2. Monitoring and assessment of the overfished red snapper fishery.
3. Bycatch reduction in Gulf trawl fisheries.
4. Restoration of wetlands experiencing nation's most severe wetland loss.
5. Assessment and mitigation of impacts of offshore oil industry on protected species and fishery stocks.
6. Recovery of sea turtles, especially the endangered Kemp's ridley.

A significant return is the elimination of the financial, operational/technical, and health/safety risks that a backlog of this magnitude represents. The investment allows improved productivity, efficiency and cost avoidance that can be gained from fully operational and modern facilities. Owing to past deterioration, the Laboratory can not be expected to fulfill its mission if the renovation is not completed.

17. IT Resources: N/A

18. R&D Components: N/A

19. Budget Justification and Support: This request has been developed on the basis of an earlier design prepared in Phases I and II of the renovation, and incorporates the "lessons learned" during the

construction of earlier segments. This project conforms with the planning and execution process as outlined in the NOAA PDAM guidance.

20. Budget Details:

Fiscal Year	Phase III	Description of Packages	Construction Cost	Support cost	Total cost
FY03	Phase IIIa	Mechanical/Electrical Work	\$880,000	\$120,000	\$1,000,000
FY04	Phase IIIb	Buildings 306 & 307	\$2,217,600	\$302,400	\$2,520,000
FY03	Phase IIIc	Buildings 301, 303, 305 & Site Work	\$2,032,800	\$277,200	\$2,310,000